

SONY.

COLOR VIDEO CAMERA

DXC-D35

DXC-D35P

DXC-D35WS

DXC-D35WSP

SERVICE MANUAL

Volume 1 1st Edition

**Power HAD
Power HAD WS**

△警告

このマニュアルは、サービス専用です。

お客様が、このマニュアルに記載された設置や保守、点検、修理などを行うと感電や火災、人身事故につながることがあります。

危険をさけるため、サービストレーニングを受けた技術者のみご使用ください。

△WARNING

This manual is intended for qualified service personnel only.

To reduce the risk of electric shock, fire or injury, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.

△WARNUNG

Die Anleitung ist nur für qualifiziertes Fachpersonal bestimmt.

Alle Wartungsarbeiten dürfen nur von qualifiziertem Fachpersonal ausgeführt werden. Um die Gefahr eines elektrischen Schlag, Feuergefahr und Verletzungen zu vermeiden, sind bei Wartungsarbeiten strikt die Angaben in der Anleitung zu befolgen. Andere als die angegeben Wartungsarbeiten dürfen nur von Personen ausgeführt werden, die eine spezielle Befähigung dazu besitzen.

△AVERTISSEMENT

Ce manual est destiné uniquement aux personnes compétentes en charge de l'entretien. Afin de réduire les risques de décharge électrique, d'incendie ou de blessure n'effectuer que les réparations indiquées dans le mode d'emploi à moins d'être qualifié pour en effectuer d'autres. Pour toute réparation faire appel à une personne compétente uniquement.

CAUTION

Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type recommended by the manufacturer.
Dispose of used batteries according to the manufacturer's instructions.

ADVARSEL

Lithiumbatteri - Eksplosjonsfare.
Ved utskifting benyttes kun batteri som anbefalt av apparatfabrikanten.
Brukt batteri returneres til apparatleverandøren.

Vorsicht!

Explosionsgefahr bei unsachgemäßem Austausch der Batterie.
Ersatz nur durch denselben oder einen vom Hersteller empfohlenen ähnlichen Typ. Entsorgung gebrauchter Batterien nach Angaben des Herstellers.

ATTENTION

Il y a danger d'explosion s'il y a remplacement incorrect de la batterie.
Remplacer uniquement avec une batterie du même type ou d'un type équivalent recommandé par le constructeur.
Mettre au rebut les batteries usagées conformément aux instructions du fabricant.

VARNING

Explosionsfara vid felaktigt batteribyte.
Använd samma batterityp eller en likvärdig typ som rekommenderas av apparattillverkaren.
Kassera använt batteri enligt gällande föreskrifter.

VAROITUS

Paristo voi räjähtää jos se on virheellisesti asennettu.
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin.
Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

ADVARSEL!

Lithiumbatteri-Eksplosjonsfare ved feilagtig håndtering.
Udskiftning må kun ske med batteri af samme fabrikat og type.
Levér det brugte batteri tilbage til leverandøren.

For the customers in the U.S.A. and Canada

RECYCLING NICKEL-CADMIUM BATTERIES

Nickel Cadmium batteries are recyclable. You can help preserve our environment by returning your unwanted batteries to your nearest point for collection, recycling or proper disposal.

Note: In some areas the disposal of nickel cadmium batteries in household or business trash may be prohibited.

RBRC (Rechargeable Battery Recycling Corporation) advises you about spent battery collection by the following phone number.

**Call toll free number: 1-800-822-8837
(United States and Canada only)**

Caution: Do not handle damaged or leaking nickel-cadmium batteries.



**For the customers in the Netherlands
Voor de klanten in Nederland**

Dit apparaat bevat een MnO₂-Li en Li-ion batterij voor memory back-up.

Raadpleeg uw leverancier over de verwijdering van de batterij op het moment dat u het apparaat bij einde levensduur afdankt.

Gooi de batterij niet weg, maar lever hem in als KCA.



Bij dit produkt zijn batterijen geleverd.
Wanneer deze leeg zijn, moet u ze niet weggooien maar inleveren als KCA.

Für Kunden in Deutschland

Entsorgungshinweis: Bitte werfen Sie nur entladene Batterien in die Sammelboxen beim Handel oder den Kommunen. Entladen sind Batterien in der Regel dann, wenn das Gerät abschaltet und signalisiert "Batterie leer" oder nach längerer Gebrauchsduer der Batterien "nicht mehr einwandfrei funktioniert". Um sicherzugehen, kleben Sie die Batteriepole z.B. mit einem Klebestreifen ab oder geben Sie die Batterien einzeln in einen Plastikbeutel.

X-RAY RADIATION WARNING

Be sure that parts replacement in the high voltage block and adjustments made to the high voltage circuits are carried out precisely in accordance with the procedures given in this manual.

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Manual Structure

Purpose of this manual

This is the Service Manual Volume 1 of the color video camera DXC-D35/D35P and DXC-D35WS/D35WSP.

Contains the operation manual related to the operations of this equipment, the replacement of the parts and adjustments.

Related manuals

Besides this Service Manual Volume 1, the following manuals are available for color video camera DXC-D35/D35P and DXC-D35WS/D35WSP.

- **Service Manual Volume 2 (Available on request)**

Part No. 9-955-214-21

This manual describes parts list, semiconductor pin assignments, block diagrams, schematic diagrams and board layouts.

For obtaining, contact your local Sony Sales Office/Service Center.

- **Service Manual DXF-801/801CE (Available on request)**

Part No. 9-955-212-01

This manual describes the replacement of the parts, alignments, parts list, semiconductor pin assignments, block diagrams, schematic diagrams and board layouts of the viewfinder.

For obtaining, contact your local Sony Sales Office/Service Center.

- **Service Manual VCT-U14 (Available on request)**

Part No. 9-977-221-01

This manual describes exploded view and parts list of the tripod adaptor.

For obtaining, contact your local Sony Sales Office/Service Center.

- **Service Manual VCL-918BY (Available on request)**

Part No. 9-977-329-01

This manual describes exploded view and parts list of the zoom lens.

For obtaining, contact your local Sony Sales Office/Service Center.

- **“Semiconductor Pin Assignments” CD-ROM (Available on request)**

This “Semiconductor Pin Assignments” CD-ROM allows you to search for semiconductors used in Communication System Solutions Network Company equipment.

Semiconductors that cannot be searched for on this CD-ROM are listed in the service manual for the corresponding unit. The service manual contains a complete list of all semiconductors and their ID Nos., and thus should be used together with the CD-ROM.

Part number: 9-968-546-XX

SONY®

3-203-895-11(1)

Color Video Camera

Section 1 Operating Instructions

This section is extracted
from operation manual.

Operating Instructions
Before operating the unit, please read this manual
thoroughly and retain it for future reference.

**Power HAD
Power HAD WS**

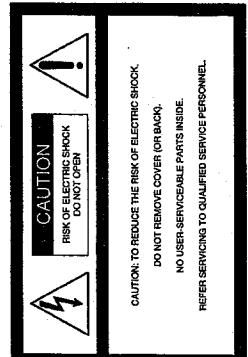
**DXC-D35K/D35PK
DXC-D35L/D35PL
DXC-D35WSL/D35WSPL
DXC-D35H/D35PH**

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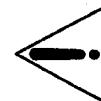
WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.



This symbol is intended to alert the user to the presence of uninsulated 'dangerous voltage' within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Owner's Record

The model and serial numbers are located on the top, record these numbers in the spaces provided below. Refer to them whenever you call upon your Sony dealer regarding this product.

Model No. _____ Serial No. _____

LITHIUM BATTERY
Replace the battery with a Sony CR2032 lithium battery. Use of another battery may present a risk of fire or explosion.

For customers in the USA (for DXC-D35K/D35L/D35WSL / D35H)

Battery may explode if misreated.
Do not recharge, disassemble or dispose of in fire.

Note
Keep the lithium battery out of the reach of children.
Should the battery be swallowed, consult a doctor immediately.

ADVARSEL!
Lithiumbatteri - Eksplosjonsfare ved feilaktig håndtering.
Utskifting må kun ske med batteri av samme fabrikat og type.

Levér det brugte batteri tilbage til leverandøren.

ADVARSEL.
Lithiumbatteri - Eksplosjonsfare.
Ved utskifting børstes kun batteri som anbefalt av apparatfabrikanten.
Brukt batteri returneres apparatleverandøren.

WARNING
Explosionsfara vid felaktigt batteritype.
Använd samma batterityp eller likvärdig typ som
rekommenderas av apparattillverkaren.
Kassera använd batteri enligt gjällande föreskrifter.

VAROITUS
Paristo voi räjähtää jos se on virheellisesti äsennettu.
Vaihda paristo ainoastaan laitevalmistajan suositusten mukaisesti.
Häviä käytetty paristo valmistajan ohjeiden mukaisesti.

For the customers in the USA and Canada
RECYCLING NICKEL-CADMIUM BATTERIES**Nickel/Cadmium batteries are recyclable.**

You can help preserve our environment by returning your unwanted batteries to your nearest point for collection, recycling or proper disposal.

Note: In some areas the disposal of nickel

cadmium batteries in household or

business trash may be prohibited.

FBCRC (Rechargeable Battery Recycling Corporation)
advises you about spent battery collection by the following phone number.

Call toll free number: 1-800-822-8337 (United States and
Canada only)

Caution: Do not handle damaged or leaking nickel-cadmium batteries.
For safety reasons, be sure to discharge the battery
before discarding it.

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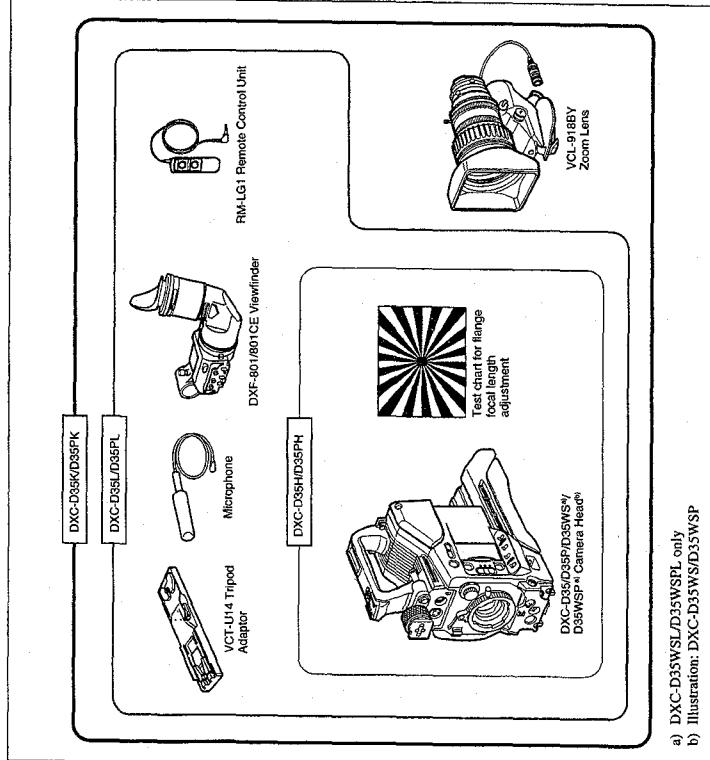
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Overview**Product Configurations**

The eight models, DXC-D35K, DXC-D35L/D35WSL,
DXC-D35H, DXC-D35PK, DXC-D35PL/D35WSPL,
and DXC-D35PH, comprise both NTSC and PAL

Appendix

Product Configurations



Chapter 1 Overview

DXC-D35/D35WS(UC)
DXC-D35P/D35WSP(CE) V1

Features

Features on the DXC-D35/D35WSL/D35WSP

The DXC-D35WSL/S35WSPL is a 16:9 wide-screen type (4:3-16:9 switchable) digital video camera while the DXC-D35/D35P is a 4:3 standard-screen type digital video camera. Common features on both types are described in this section. See also "Features on the DXC-D35WSL/D35WSPL" (page 12) for using the DXC-D35WSL/S35WSPL.

2/3-inch IT type Power HAD (WS) CCD

The DXC-D35/D35P Color Video Camera uses 2/3-inch IT type Power HAD CCDs. (For the DXC-D35WSL/D35WSPL, Power HAD WS CCDs are used.) It outperforms most of the existing IT type CCD cameras for high-end use, in both picture quality and sensitivity.

- Smear: -125 dB (DXC-D35/D35P) or -120 dB (DXC-D35WSL/D35WSPL)
- Sensitivity: F11.0 (at 3200 K, 2000 lux)
- S/N: 63 dB (DXC-D35/D35WSL) or 61 dB (DXC-D35P/D35WSPL)

Sophisticated Image processing

TrnEye™ processing makes possible the following performance features. This new digital signal processing has brought reproduction of natural colors to the level achieved by the human eye.

Dynalatitude™

Enables detailed adjustment of contrast control in each pixel in accordance with a histogram of luminance signal levels (see page 45).

DCC+ (dynamic contrast control plus)

Prevents white breakup when shooting a high intensity subject, and also prevents color faults in high intensity subject.

Black stretch and compress

Enables control of luminance signal levels in black areas without changing the hue.

Variety of detail corrections

- Skin detail function: this function gives a slightly softer appearance to the subject's face. The target skin color can be automatically set.
- Black halo correction
- Red/green vertical detail correction: this function performs vertical detail compensation for both red and green signals.
- Horizontal detail frequency control

Recording and managing setup data

In addition to the setup menu that is displayed in the viewfinder screen, the DXC-D35/D35P/D35WSL/D35WSPL is equipped with the following functions to facilitate camera head setup.

Setup file system

You can use setup files when making adjustments or settings. The DXC-D35/D35P/D35WSL/D35WSPL comes with factory preset files that contain shipped settings and you can freely create user files as well.

Automatic recording of setup data (when using DSR-1/P)

When the DXC-D35/D35P/D35WSL/D35WSPL is connected to the DSR-1/P VTR, two types of setup data can be recorded.

SetupLog™: Shooting-related environment settings are recorded onto the tape at intervals of a few seconds. This recorded data can then be used to reproduce the same shooting conditions in subsequent shots. It also makes it easier to identify the causes of problems in previous shots.
SetupNavir™: The setup conditions selected with the setup menu and setup files are recorded onto the tape. The recorded setup data can be copied to other camera heads so that the same setup can be shared among several camera heads.

ClipLink™ Function (when using DSR-1/1P)

The ClipLink function can be used at every step from acquisition to editing. Information necessary for editing is recorded when shooting to ensure fast and efficient editing operations.

When you set a recording start (Rec IN) point or when you press the TAKE button to set a Mark IN point, the video image at that point is recorded on the tape in compressed form as an Index Picture. In addition, the time codes for such editing points (Mark IN/Mark OUT points or cue points) are recorded along with other editing point data (such as the cassette number and scene number) into cassette memory (as ClipLink log data). Unsuccessful scenes containing faults can also be marked in cassette memory as "NG", so that only the good scenes are taken up from cassette memory when editing.

Dockable with various types of VTRs

The DXC-D35/D35PD/D35WSL/D35WSPL docks with the DSR-1/1P DV/CAM VTR to configure a digital camcorder. It also docks with the PVV-3GP Betacam SP VTR to configure a Betacam SP camcorder. In addition, the DXC-D35/D35PD/D35WSL/D35WSPL docks with the EVV-9000/9000P Hi-8 VTR. Using an adaptor (not supplied), it is also able to dock with a variety of existing S-VHS VTRs.

New Functions boost Operability

EZ (easy) mode function

When there isn't time to check the camera head settings, simply press the EZ mode button to start the auto adjustment function using standard settings. There is no need to lose a shot for lack of setup time.

EZ (easy) focus

Press the EZ focus button before shooting to ensure a quick and accurate focus.

Programmable gain

The amount of gain relative to the GAIN switch setting (H, M, or L) can be programmed as -3 dB, 0 dB, 3 dB, 6 dB, 9 dB, 12 dB, 18 dB, 18 dB+DPR¹⁾, 24 dB, 24 dB+DPR and hyper gain.

Hyper gain

Hyper gain (36 dB or 42 dB, i.e. about 60 times or 120 times greater than 0 dB) can be easily set via one switch setting. This can also be done from remote equipment.

Auto tracing white balance

This function automatically traces the white balance, which constantly changes as lighting conditions change. Auto tracing white balance is especially useful when there is no time to manually adjust the white balance or when shooting moves between indoor and outdoor locations.

Total level control system (TLCS)

Even if the incoming light exceeds the range in which the standard auto iris can control exposure, the auto gain control (AGC) or auto exposure (AE) backs up to ensure proper exposure.

Dual pixel readout (DPR)

When the gain is set to either 18 dB or 24 dB, the gain setting can be doubled (6 dB up) without increasing the noise level.

Recording time display

Recording time can be displayed in either of the following modes.

Viewfinder super detail

Video signals for the viewfinder are mixed with DTI signals to make focusing easier.

Dual zebra pattern display

Two types of zebra patterns, zebra 1 and zebra 2 can be displayed simultaneously or independently. The zebra 1 can be set to the levels ranging from 70 to 90% IRE on the DXC-D35/D35WSL (or from 70 to 90% on the DXC-D35PD/D35WSPL) and the zebra 2, indicates the levels of 100 IRE for the DXC-D35/D35WSL or more (or the levels of 100% or more for the DXC-D35PD/D35WSPL).

Color temperature display

When reading the white balance, the color temperature is displayed on the viewfinder screen.

Switching the color temperatures for the preset white balance

This scene automatically traces the white balance. You can select the preset white balance at 3200 K (default) or 5600 K (default) by setting the FILTER control. The preset white balance can be changed to other value through menu setting (see page 59).

Video monitor output with text

The video signal with text superimposed that is shown in the viewfinder can also be output to an external video monitor.

Camera head microphones output indicator

An indication ²⁾ appears in the viewfinder whenever a signal is being output from the camera head's microphone.

1-kHz reference signal output

Along with a color bar, a 1-kHz reference signal can also be output.

Freeze mix function (when using DSR-1/1P)

The freeze mix function superimposes any previously recorded still picture on the viewfinder screen to facilitate framing the subject when restroting the scene.

Edit Search Function (when using DSR-1/1P)

When using the DXC-D35/D35PD/D35WSL/D35WSPL with the DSR-1/1P, pressing the EDIT SEARCH buttons allow the tape to play back in search mode. Set either of two playback speeds.

1) DPR = Dual Pixel Readout

10 Chapter 1 Overview



Designed for ease of operation

Dynafit Pad

Thanks to the Dynafit Pad which fits well to the shoulder, the camera is stable on the shoulder.

Slide cover

The slide cover can hide the switches and buttons that are seldom used during shooting. The cover can be locked so as not to open during shooting.

High-performance viewfinder (DXF-801/801CE)

• High resolution (600 TV lines of horizontal resolution)

• Large-diameter eye cup for easier viewing and focusing

• PEAKING potentiometer for vertical and horizontal detail control

• Two indicators can be used as TALLY indicators.

• Tough die-cast aluminum body

• DISPLAY switch that can turn the character display on and off

• Light that can light the lens control elements

• Switching the aspect ratio automatically between 16:9 (wide screen) and 4:3 (standard screen) when used with the DXC-D35WSL/D35WSPL

VTR data display

• When connected to a VTR, the DXC-D35/D35PV D35WSL/D35WSPL is able to display the following data on its viewfinder screen.

• Time values (counter, time code, or user bit values)

• VTR audio levels

• Remaining tape time

• VTR operation mode

• Remaining battery capacity (when using an Anton Bauer Intelligent Battery System)

• ClipLink information (when using the DSR-1/1P)

Features

Features on the DXC-D35WSL/D35WSP

Features only on the DXC-D35WSL/S35WSPL is described in this section. See "Features on the DXC-D35PD/D35WSL/D35WSP," (page 9) for common features on a 4:3 standard-screen type digital video camera and 16:9 wide-screen type digital video camera.

Switchable between 16:9 and 4:3 aspect ratios

A simple menu operation provides instant switching between the 16:9 and 4:3 aspect ratios. In 4:3 mode, a screen equivalent to a 4:3 screen is obtained through digital processing of the 16:9 video signals produced by the WSCCD. (See page 68.)

Wide-aspect ID signals

A menu setting is available to add wide-aspect ID signals¹⁾ to 16:9-mode video signals.²⁾ (See page 68.)

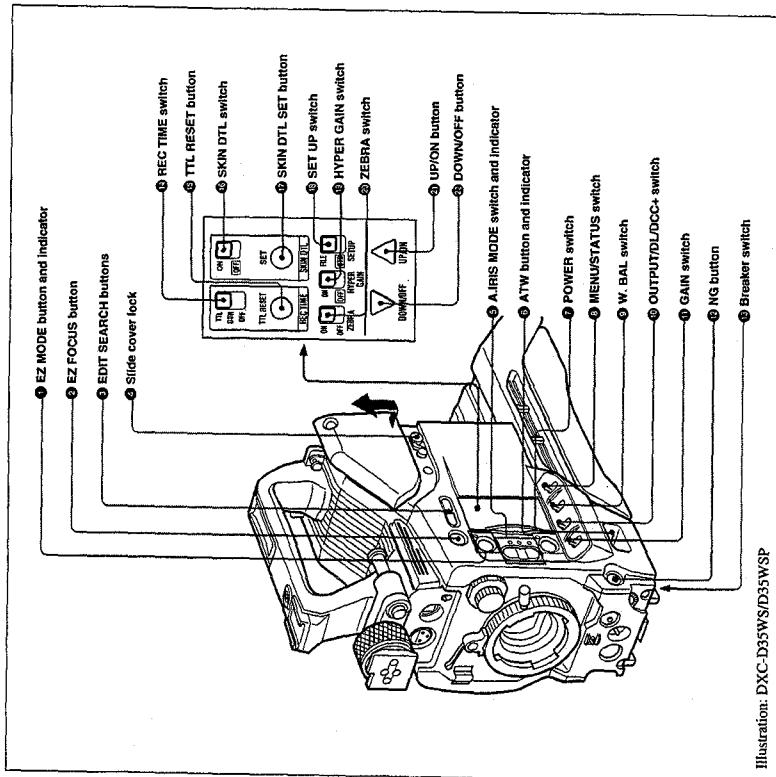
Selection of the safety zone size in 16:9 mode

When the aspect ratio is 16:9, you can change the safety zone size through menu setting (see page 65.)

Location and Function of Parts

Camera Head

Right side view



1) ID signals complying with EIAI CPR-1204 (DXC-D35WSL) or complying with ETS WSS (DXC-D35WSP).
2) Video signals refer to the following:
• Video signals output from the VIDEO OUT connector
and MONITOR OUT connector.

* The Y component of Y/C separate signals and the Y component of component signals output from the YTR connector.

Location and Function of Parts

① EZ ("easy") MODE switch and indicator

Depress this button (EZ mode on) when you want to be able to shoot immediately, with automatic adjustment of the camera settings to standard values. (See page 68.) When this function is used, the iris and the white balance are adjusted automatically. (The total level control system functions.) Press this button again to return the camera to the previous settings (EZ mode off).

Note

When connecting the CCL-M5/M7 (or CCL-M5P/M7P) Camera Control Unit or the RM-M7G Remote Control Unit, the "Easy mode" function is disabled.

② EZ FOCUS button

Press this button to turn the "easy focus" function on. This opens the iris, to make it easier to focus before beginning shooting. The indication "EZ FOCUS" appears in the viewfinder while the function is on; to turn it off, press the EZ FOCUS button again. If left on, the function automatically turns off after about ten seconds.

Note

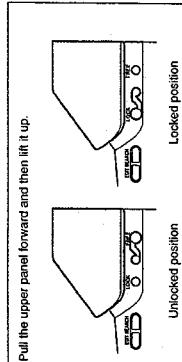
If the "easy focus" function is still on when you press the VTR button, it turns off automatically and recording starts about one second later.

③ EDIT SEARCH buttons (for operation with DSR-1/P)

When using the DSR-1/P to record, you can see the search playback while pressing either of the two buttons at recording pause mode to quickly find the next recording start point. Two playback speeds are available, and press either of the buttons to the inner position to increase the speed.

④ SLIDE cover lock

This lock keeps the slide cover closed.
Pull the upper panel toward and then lift it up.



⑤ A.IRIS (auto iris) MODE switch and indicator

When you use the auto iris function (by setting the iris selector on the lens to A), set this switch to suit the shooting conditions. Selecting BACK L gives more light to back-lit subjects, and selecting SPOT L adjusts for high contrast in spot-lit subjects. For normal shooting, set this switch to STD.

⑥ ATW (auto tracing white balance) button and indicator

Press this button, turning the indicator on, when you want the white balance to be adjusted automatically to follow changes in lighting conditions. (See page 81.)

⑦ POWER switch

This powers the camera on and off. There are two different ON settings as follows.

ON STBY: This puts the VTR on standby. In this state, pressing the VTR button on the camera head, the lens, or a camera adaptor starts recording immediately.

ON SAVE: This puts the VTR in the power-saving state, with the video head drum stationary. In this state, it takes a few seconds to start recording after pressing the VTR button.

Note

The VTR state when this switch is in the ON STBY or ON SAVE position may depend on the VTR model.

⑧ MENU/STATUS switch

When you press this switch to the MENU position, the basic menu is displayed. Keep pressing it to the MENU position to cycle through the various menu displays. When you press the switch to the STATUS position, the DXC-D35/D35P/D35WSL/D35WSPL's status (of current settings) is displayed.

⑨ W.BAL (white balance) switch

This selects the white balance setting from the preset value, the value in memory A or the value in memory B. (See page 79.)

⑩ OUTPUT/DCC+ (Dynamic Latitude/dynamic contrast control plus) switch

Use this switch to select the DCC+ function, the Dynamic Latitude function, or color bar output. Select the CAM/DCC+ position in most cases.

CAM/DCC+::

This activates the DCC+ function. This prevents color faults when shooting high-intensity subjects.



Note

CAMD/L: This setting uses the Dynalatitude function, which finely adjusts the contrast of each pixel according to a histogram of luminance signal levels. Access advanced menu, page 2 to set the Dynalatitude function ON or OFF. The Dynalatitude effect can be set to any of three levels, Low, STD (standard), and High with basic menu page 2.

BARS: This setting displays color bars.

⑪ TTL (total RESET) button

Pressing this button resets the total recording time (TTL selection) to zero.

⑫ SKIN DTL (skin detail) switch

Set this switch to ON to use the skin detail correction function.

For details, see "Skin Detail Correction" (page 93).

⑬ SKIN DTL (skin detail set) SET button

Press this button with the SKIN DTL button ⑫ to display the area detect cursor on the viewfinder screen. Place the cursor on the target and press this button to perform skin detail correction.

For details, see "Skin Detail Correction" (page 93).

⑭ NG button

When the HYPER GAIN switch ⑮ is in the ON position, the GAIN switch has no effect.

⑮ HYPER GAIN switch

When using the ClipLink function during shooting, you can designate a particular scene as "NG" (No Good) by pressing this button before shooting the next scene. Press the button again to cancel the NG setting.

⑯ SET UP switch

Use this switch to select the camera head setup method.

STD: Set up using the setup menu. Setup file data is not displayed.

FILE: Set up using setup files and the setup menu.

⑰ HYPER GAIN switch

Setting this switch to the ON position increases the gain by a factor of about 60 or 120 with respect to 0 dB (a 30 or 36 dB increase by electronic amplification and a 6 dB increase for DTR, bringing about a total gain increase of 36 or 42 dB).

When this switch is in the ON position, the indication "HYPER" appears in the viewfinder, and the GAIN UP indicator in the viewfinder also lights.

When finished shooting, return this switch to the OFF position. The "HYPER" indication disappears and the GAIN UP indicator goes out.

Note

Increasing the gain with this switch reduces the horizontal resolution by 50%.

Location and Function of Parts

① ZEBRA switch

Set this switch to the ON position to display a zebra pattern (diagonal stripes) in the viewfinder.

Depending on the zebra setting in advanced menu page 4 (page 65), the zebra 1 for video levels between 70 to 90 IRE (or 70 to 90%) and the zebra 2 for video levels 100 IRE or more (or 100% or more) can be displayed independently or simultaneously.

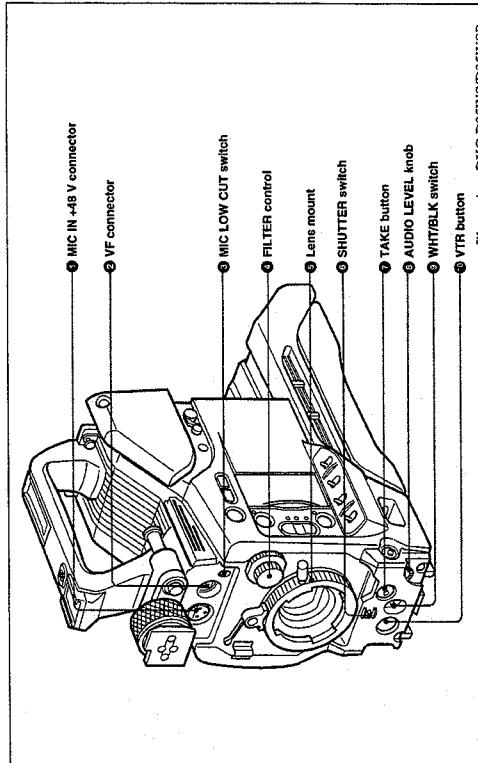
② UP/ON button

Use this button to open displays and to make "ON" settings. When using the advanced menus, use this button to change menu pages or to switch to the ordinary screen display.

③ DOWN/OFF button

Use this button to close displays and to make "OFF" settings. You can also use this button to change menu pages when using the advanced menus.

Front view



④ MIC (microphone) IN +48 V connector (XLR 3-pin, female)

Connect the supplied microphone or an optional microphone (operable with a 48 V supply).

⑤ VF (viewfinder) connector (20-pin)

This is the connector for the DXF-801/801CE viewfinder.

Note

When using this connector, do not connect a DXF-41/51 viewfinder to the VF connector on the left side.

⑥ Lens mount

Attach the zoom lens here.

⑦ FILTER control

Select the color temperature conversion filter appropriate to the lighting conditions. (See page 43.)

⑧ ACCESSORY fitting shoe and screw hole

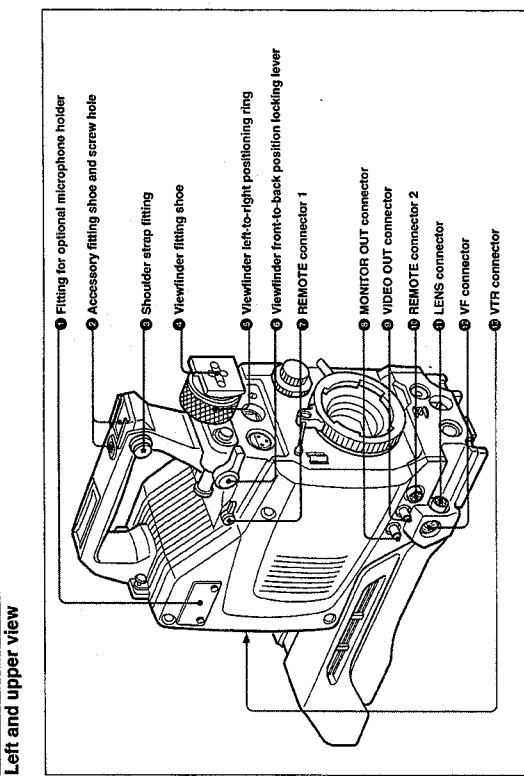
Attach optional video lights or other accessories here.

⑨ Shoulder strap fixture

To use the supplied shoulder strap, fix one end here and the other end to the VTR.



Left and upper view



⑩ MIC LOW CUT switch

Set this switch to the ON position to insert a high-pass filter in the microphone circuit, reducing wind noise. Normally leave the switch in the OFF position.

⑪ FILTER control

Select the color temperature conversion filter appropriate to the lighting conditions. (See page 43.)

⑫ Viewfinder fitting shoe

Fix the DXF-801/801CE viewfinder here.

⑬ Viewfinder front-to-back position locking catch

Release this catch to adjust the front-to-back position of the viewfinder. (See page 32.)



Location and Function of Parts

⑦ REMOTE connector 1 (mini-jack)
Connect the RM-LG1 Remote Control Unit to enable remote operation of the ClipLink function.

⑧ MONITOR OUT connector (BNC)
Outputs both the camera video and the character information as displayed on the viewfinder screen. You can connect an optional LCD color monitor to this connector.

⑨ VIDEO OUT connector (BNC)

This outputs the video signal captured by the camera.

⑩ REMOTE connector 2 (10-pin)
Connect the optional RM-M7G Remote Control Unit to this connector. Set the CAMERA HEAD SELECT switch on the bottom of RM-M7G to 1.

Note:

When using the RM-M7G, note the following points.
 • When operating the camera head from the camera control unit, connect the RM-M7G to the camera control unit.
 • EZ mode cannot be used if the RM-M7G is connected to the camera head.

⑪ LENS connector (12-pin, for 2/3-inch lens)
Connect the lens connector.

⑫ VF (viewfinder) connector (8-pin)
This is the connector for the DXF-81/801CE viewfinder.

Note:

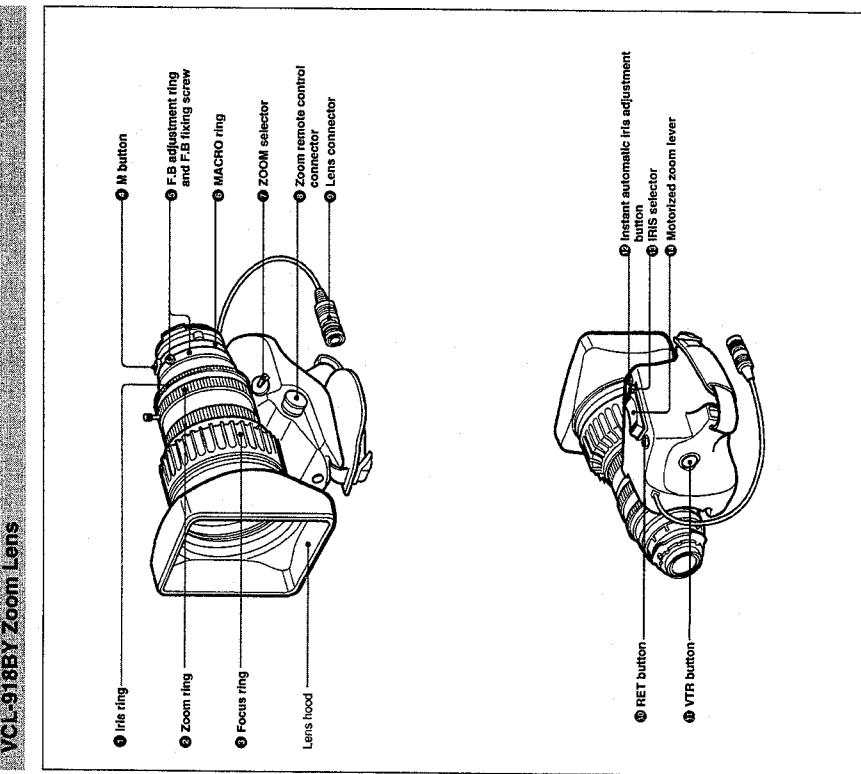
When using this connector, do not connect a DXF-801/801CE viewfinder to the VF connector on the front of the camera head.

⑬ VTR connectors (PRO 76-pin DIGITAL, and PRO 50-pin)

Connect a dockable VTR. A PRO 76-pin DIGITAL connector is for the DSR-1/IP and a PRO 50-pin connector is for the PVV-3/P or a camera adaptor.

VCL-918BY Zoom Lens

Chapter 1 Overview



Location and Function of Parts

① Iris ring
For manual iris control, set the IRIS selector ⑩ to the "M" position, and turn this ring.

② Zoom ring
For direct manual zoom control, set the ZOOM selector ⑦ to the "MANU" position, and turn this ring.

③ Focus ring
Turn this ring to focus the lens on the subject.

④ M (close-up) button
For close-up work, turn the MACRO ring ⑥ while holding this button down. (See page 91.)

⑤ F.B (flange focal length) adjustment ring and F.B fixing knob
F.B adjustment ring : To adjust the flange focal length, loosen the F.B fixing knob, then turn the ring. (See page 89.)
F.B fixing knob: Fixes the F.B adjustment ring.

⑥ MACRO (close-up) ring
For close-up, turn this ring while holding the M button ④ down. (See page 91.)

⑦ ZOOM selector
This selects the mode of zoom operation.
SERVO: power zoom
MANU. (manual): manual zoom

⑧ Zoom remote control connector (8-pin)
Connect the optional LO-26 lens remote control unit for remote control of zooming.
⑨ Lens connector (12-pin)
Connect to the LENS connector ⑪ on page 18) of the Camera Head.

1) E-E video signal: "electric-to-electric" video signal.
This is the input video signal which has passed through internal electrical circuits, but has not been converted to a magnetic signal.

⑩ RET (return) button

This allows you to check the video signal as follows.
When operating with a portable VTR connected via other equipment: when the VTR is in recording, pressing this button connects the E-E video signal 1) from the VTR to the viewfinder.
When operating with a DSR-1/TP or PVV-3/3P mounted on the camera head: when the VTR is in recording pause mode, press this button to review the last few seconds of the recording in the viewfinder (recording review).

⑪ VTR button
When operating with a VTR: this button starts and stops recording, and once more to stop.

⑫ Camera Control Unit connected: pressing this button connects the return video signal from the camera control unit to the viewfinder.

⑬ Camera Control Unit connected: pressing this button connects the return video signal from the camera control unit to the viewfinder.

⑭ Instant automatic iris adjustment button
While using manual iris control, press this button to switch temporarily to the automatic iris control setting. The automatic setting is maintained as long as you hold the button down.

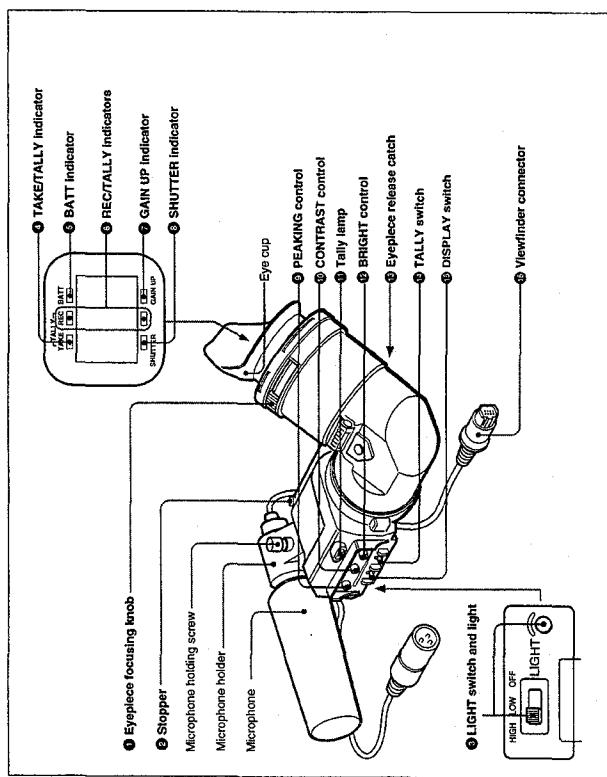
⑮ IRIS selector
A (automatic): automatic iris
M (manual): manual iris

⑯ Motorized zoom lever
Use this to carry out a power zoom. Pressing the lever harder increases the zoom speed.

W end: zoom toward wide angle
T end: zoom toward telephoto

DXF-80/180/ICE Viewfinder

You can switch the scan size of the DXF-80/180/ICE in accordance with the aspect ratio selected on the camera or camcorder.



① Eyeepiece focusing knob

Turn this to adjust the viewfinder focus to match your eyesight. (See page 14.)

② Stopper

Lift up when detaching the viewfinder (See page 32).

③ LIGHT switch and light

The light lights the lens and the switch controls the light as follows.
HIGH/LOW: Turn the light on and control the brightness.
OFF: Turns the lights off.

Note

When using a camera control unit, this indicator flashes when you operate the controls, but this is not a malfunction.

⑥ REC/TALLY (recording/tally) indicators (red)
This flashes from the time when you press the VTR button (⑩ on page 17 and ⑪ on page 20) on the lens or camcorder until recording starts, then stays on continuously during recording.

- When using a camera control unit, this lights when the video from the camera is selected.
- This is also used to indicate a fault. (See page 97.)
- The lower indicator can be disabled by menu setting. (See page 66.)

⑦ GAIN UP indicator (orange)
This lights when the gain is 3 dB or more.

⑧ SHUTTER indicator (red)
This lights when the SHUTTER switch (⑨ on page 17) is in the ON position. (If the EVS is selected, the indicator will not light.)

⑨ PEAKING control
This adjusts the outline intensity of the viewfinder image. (See page 88.)

⑩ CONTRAST control
This adjusts the contrast of the viewfinder image. (See page 88.)

⑪ Tally lamp
When the TALLY switch ⑫ is in the ON position, this operates in the same way as the REC/TALLY indicators ⑥.

⑫ BRIGHT (brightness) control
This adjusts the brightness of the viewfinder image. (See page 88.)

⑬ Eyepiece release catch
To view the viewfinder screen directly, press this catch, and hinge up the eyepiece.

⑭ TALLY switch
Set this switch to the ON position to use the tally lamp ⑪.

Chapter 1 Overview

Fitting and Connections

Chapter

⑮ DISPLAY switch

Set this switch to OFF when you want to remove the character data from the viewfinder and the monitor connected to the MONITOR OUT connector. However, items which are set to OFF in advanced menu page 5 and page 6 are not displayed even when this switch is set to ON.

⑯ Viewfinder connector (20-pin)
Connect this to the VF connector (② on page 16).

Notes

- Carefully read the instructions for replacing the lithium battery. Lithium batteries may explode if misused.
- Use only CR2032-type lithium batteries. Other types of lithium batteries may come loose when the camcorder is moved. If you have difficulty finding CR2032-type lithium batteries, contact your Sony dealer.

Replacing the Lithium Battery

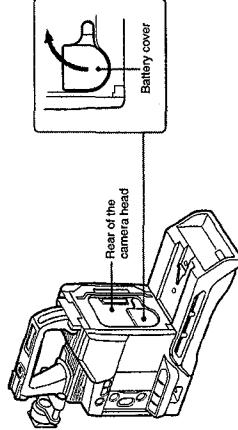
The camera head uses a lithium battery (CR2032) to retain date and time data.

When the lithium battery's voltage falls, the clock indication does not appear. Replace the lithium battery and set the clock (see page 86).

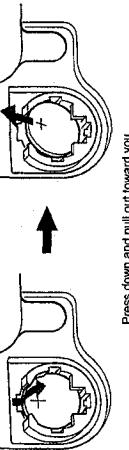
Replacing the Lithium Battery

1 Pull the upper part of the battery cover (on the rear of the camera head) forward and turn the cover clockwise.

For detaching the VTR or camera adapter, see "Fitting a VTR" next page.



2 Take out the lithium battery.



3 Reverse step 2 to insert a replacement lithium battery. Make sure that the + symbol on the battery is facing you.

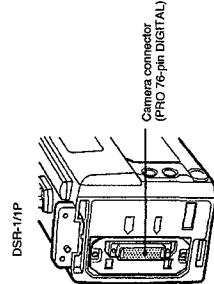
4 Close the battery cover.

Fitting a VTR

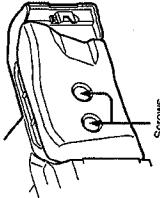
This section explains how to attach the DSR-1/P to the camera head. The method for attaching a PVV-3/P is similar.

When replacing the camera head grip with a camcorder grip, see "Using the Camcorder Grip" (page 27).

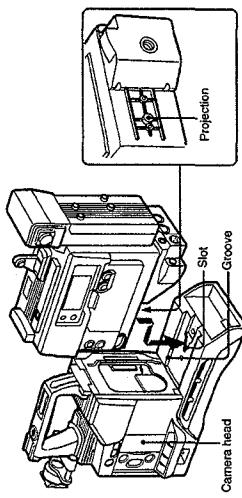
1 Set the PRO 76-pin DIGITAL connector on the DSR-1/P. (The camera connector on the PVV-3/P is PRO 50-pin.)
For details, see the operating instructions for the DSR-1/P.



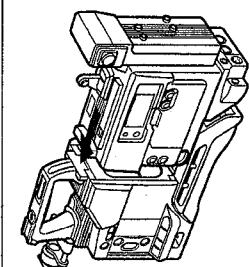
2 Loosen the two screws and remove the shoulder pad.



3 Align the projection on the bottom of the DSR-1/P with the slot on the camera head.

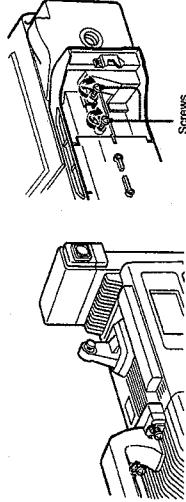


(continued)



4 Slide the DSR-1/P and the camera head together in the groove as far as possible.

5 Tighten the two screws in the grip connector and the two screws in the shoulder pad section.



6 Attach the shoulder pad.

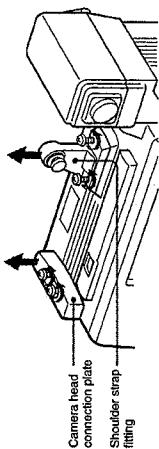
To remove the VTR
Reverse the fitting procedure.

3 Remove the VTR connection plate.

To fit a camera adaptor
Follow the same procedure as when fitting a VTR.



4 Remove the DSR-1/P's shoulder strap fitting and the camera head connection plate.



(continued)

Using the Camcorder Grip

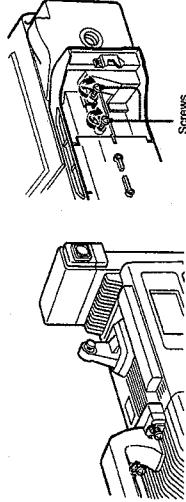
When using the camera head with a VTR as a camcorder, you can replace the camera head's grip with a camcorder grip (not supplied). The type of

Attaching a camcorder grip to the DSR-1/P

1 If the viewfinder is attached, adjust the viewfinder to the full-forward position.

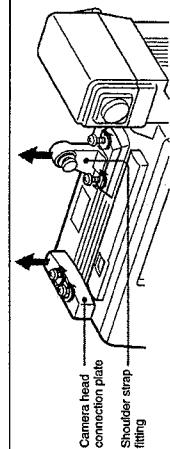
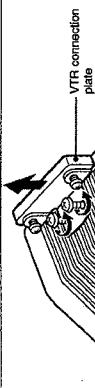
For details, see "Adjusting the viewfinder position" on page 32.

2 Remove the camera head grip's three screws, then pull up the grip to remove it.



6 Attach the shoulder pad.

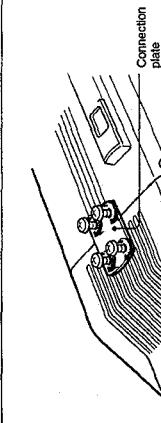
To remove the VTR
Reverse the fitting procedure.



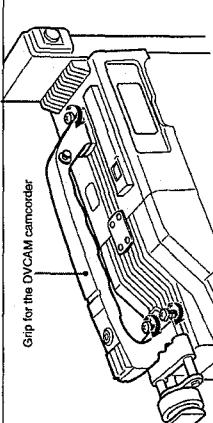
Fitting a VTR

5 Perform the first three steps in "Fitting a VTR".

6 Screw the connection plate (supplied with the grip for the DVCAm camcorder), which straddles the connection between the camera head and the DSR-1/P. Also, tighten the two screws in the shoulder pad section. (See step **5** on page 26.)

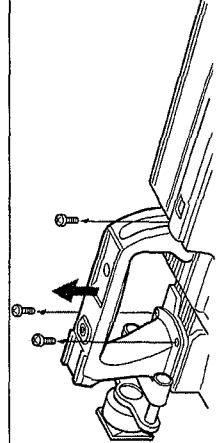


7 Screw the grip for the DVCAm camcorder.

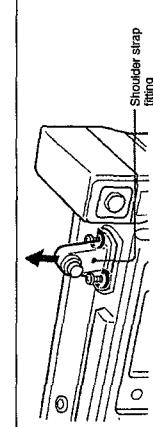


Chapter 2 Fitting and Connections

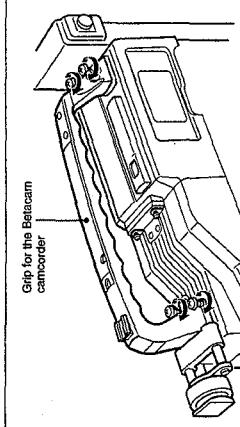
3 Remove the grip's three screws, then pull up the grip to remove it.



4 Remove the PVV-3/3P's shoulder strap fitting.



5 Screw the grip for the Betacam camcorder.



1 Perform steps **2** to **4** in "Fitting a VTR".

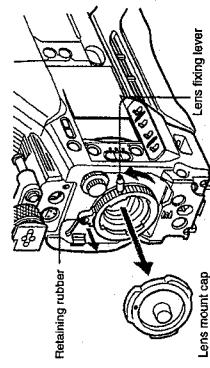
2 If the viewfinder is attached, adjust the viewfinder to the full-forward position.

For details, see "Adjusting the viewfinder position" on page 32.

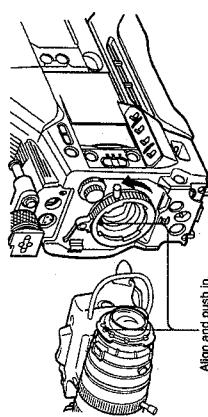
Fitting the Lens

In the case of the DXC-D35K/D35PK model, the lens is already fitted. In other cases, use the following procedure to fit the lens.

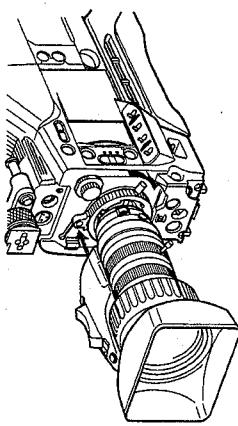
- 1 Remove the retaining rubber which prevents the lens mount from coming loose, then raise the lens fixing lever, and remove the lens mount cap.



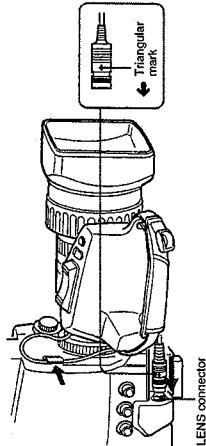
- 2 With the lens fixing lever turned fully counterclockwise, push in the lens, aligning the projection on the lens with the cutout on the camera.



- 3 Supporting the lens, turn the lens fixing lever fully clockwise. Replace the retaining rubber on the lens mount.

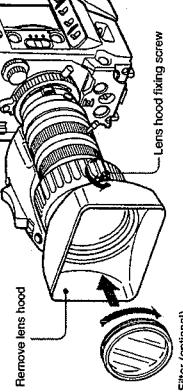


- 4 Using the triangular mark as a guide, push the lens connector into the LENS connector on the camera head, until it clicks into place. Fasten the cable with the clamps.



Fitting optional filters

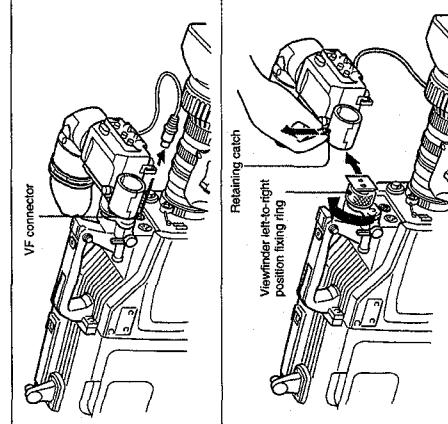
Loosen the lens hood fixing screw to remove the lens hood, then attach the filter.



Using Accessories

Using the Viewfinder

Removing the Viewfinder
Remove any microphone from the viewfinder before beginning.



- 1 Pull the viewfinder connector out of the VF connector on the front of the camera head.
- 2 Loosen the viewfinder left-to-right position fixing ring, then pulling up the retaining catch, slide the viewfinder out.

Chapter 2 Fitting and Connections

Left eye adaptor
By fitting a left eye adaptor, you can use the camera with your left eye to the viewfinder.

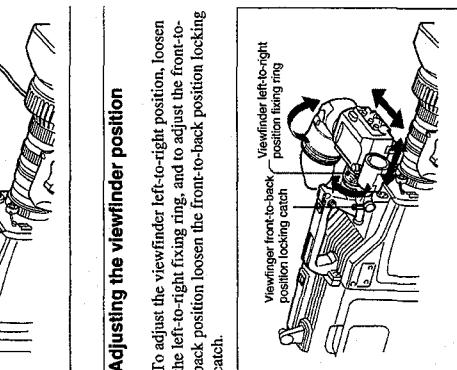
For details, consult your Sony dealer.

Using an Optional Microphone Holder

To use a long microphone such as the optional ECM-670/672, fit an optional CAC-12 Microphone Holder to the camera, then mount the microphone in this holder.

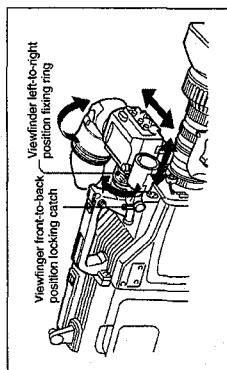
Fitting the optional CAC-12 Microphone Holder
Remove the two retaining screws ($M3 \times 8$) for the optional microphone holder, then use these screws to attach the CAC-12 Microphone Holder.

Fitting an optional microphone
Use the following procedure to attach an optional ECM-670 Microphone.



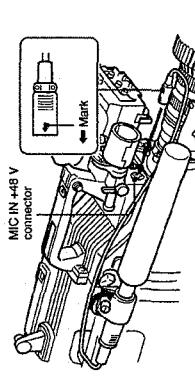
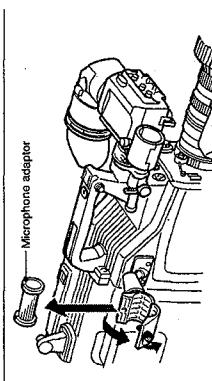
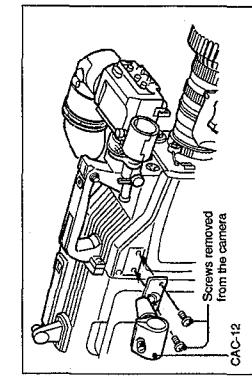
Adjusting the viewfinder position

To fit the viewfinder
Reverse the removal procedure.
To adjust the viewfinder left-to-right position, loosen the left-to-right fixing ring, and to adjust the front-to-back position loosen the front-to-back position locking catch.



Note
You cannot stow the camera attached with a left eye adaptor in the LC-421 Carrying Case.

For details, consult your Sony dealer.

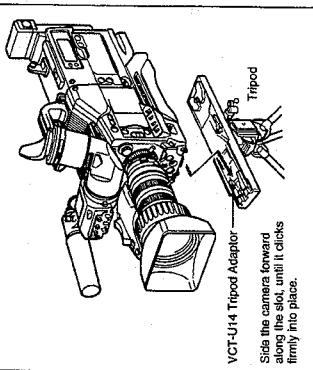


Using Accessories

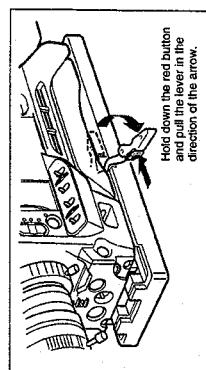
Fitting optional microphones (operable with a 48 V supply) other than the ECM-670
Use the same fitting procedure as for the ECM-670, but note the following differences with respect to the microphone adaptor.
Slender microphones (19 mm (7/8 inch) diameter): use the microphone adaptor supplied with the CAC-12.

Fitting to a Tripod

First fit the VCT-U14 Tripod Adaptor to the tripod, then mount the camera on the tripod adaptor.

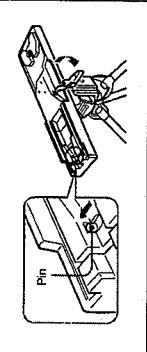


Removal



Using the Carrying Case

Note
After removing the camera, if the tripod adaptor pin has not returned to its original position, hold down the red button and move the lever in the direction of the arrow to return the pin to its original position. It is not possible to mount a camera with the pin left out.

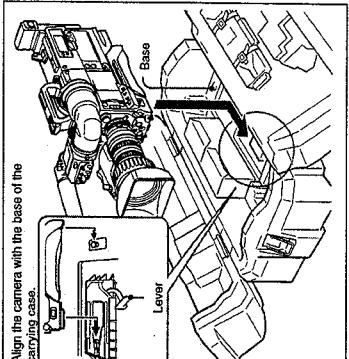


Using the Optional CAC-4 Chest Pad

When using the camera on your shoulder, attaching the optional CAC-4 Chest Pad reduces the load on your right hand supporting the zoom lens, and makes operation easier.

For details see the instructions provided with the CAC-4.

Stowing the camera

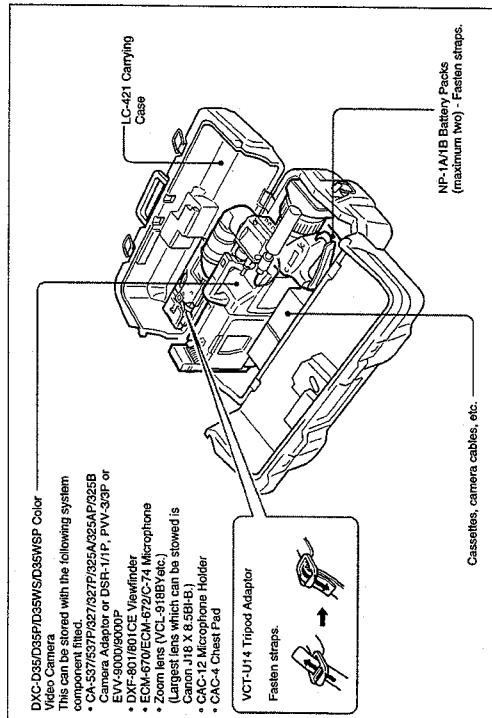


Align the camera with the base of the carrying case.
Lever

Notes

- Bring the viewfinder into the horizontal position, slide it fully rearward and to the left, then fix before stowing.
- When an optional microphone (ECM-670/672, C-74, etc.) is attached, loosen the microphone fixing screws, move the microphone to the lowest position, and fix before stowing.

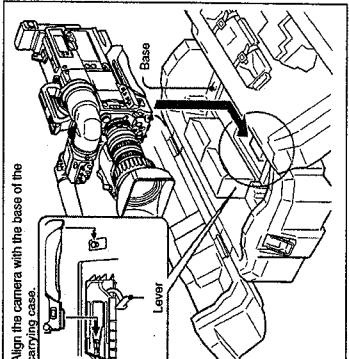
Example of fully-stowed carrying case



DXC-D35/D35P/D35V/D35WSP Color Video Camera
This can be stored with the following system component fitted:
• CA-S275/S277/S278/S254/S255/S256B Camera Adapter or DSR-1/P, PVV-3GP or EV-500/500P
• DXF-60/160/1CE Viewfinder
• ECM-670/ECM-672/C-74 Microphone
• Zoom lens (VCL-9/18BY/Fact.)
• (Largest lens which can be stowed is Canon 35 X 8 SP-H.)
• CMC-12 Microphone Holder
• CAC-4 Chest Pad

NP-1A/B Battery Packs (maximum two - Fasten straps.)
Cassettes, camera cables, etc.

Using the Carrying Case

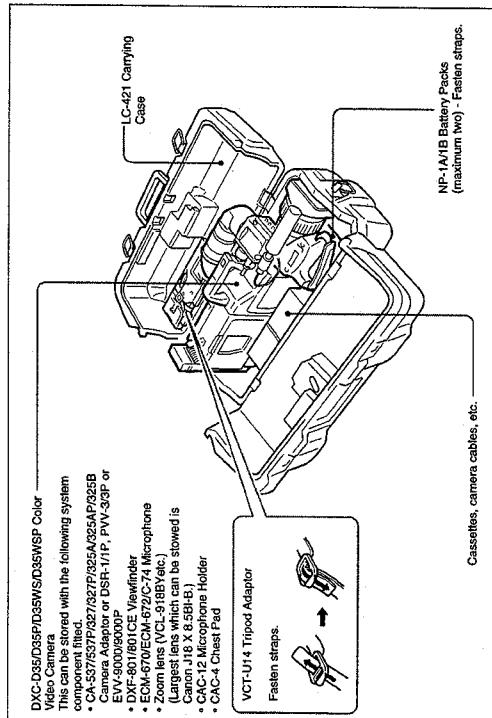


Align the camera with the base of the carrying case.
Base
Lever

Notes

- Bring the viewfinder into the horizontal position, slide it fully rearward and to the left, then fix before stowing.
- When an optional microphone (ECM-670/672, C-74, etc.) is attached, loosen the microphone fixing screws, move the microphone to the lowest position, and fix before stowing.

Example of fully-stowed carrying case



DXC-D35/D35P/D35V/D35WSP Color Video Camera
This can be stored with the following system component fitted:
• CA-S275/S277/S278/S254/S255/S256B Camera Adapter or DSR-1/P, PVV-3GP or EV-500/500P
• DXF-60/160/1CE Viewfinder
• ECM-670/ECM-672/C-74 Microphone
• Zoom lens (VCL-9/18BY/Fact.)
• (Largest lens which can be stowed is Canon 35 X 8 SP-H.)
• CMC-12 Microphone Holder
• CAC-4 Chest Pad

NP-1A/B Battery Packs (maximum two - Fasten straps.)
Cassettes, camera cables, etc.

Connections

Connecting a Portable VTR

Video monitor
If using an S-VHS VTR, using a video monitor with an S-video input connector and connecting it to the S-video connector of the VTR will allow you to monitor a clear picture, with no flickering.

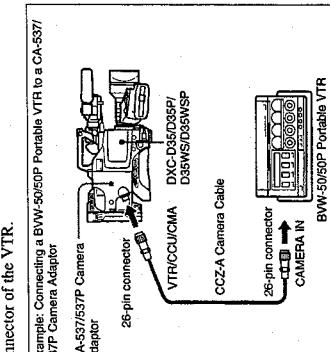
The output video signal from the VIDEO OUT connector of this unit is a composite video signal. Connect the VIDEO OUT connector of this unit to a composite video signal input connector of the monitor.

Checks before making connections

Check first that the video camera, camera adaptor, VTR, and other devices are all powered off.

Making connections

Using a camera cable, connect the VTR/CCU/CMA connector on the camera adaptor to the camera input connector of the VTR.

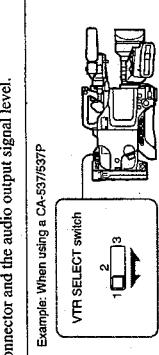


- Select a camera cable to fit the camera input connector on the VTR you are using.
- The maximum camera cable extent is 10 m (33 ft).

For details, consult your Sony dealer.

Setting the VTR selector switch on the camera adaptor

When using the camera with a CA-537/537P/327/327P Camera Adaptor, it is essential to correctly set the VTR selector switch on the camera adaptor according to the VTR connected. This switch determines the type of video signal output from the VTR/CCU/CMA connector and the audio output signal level.



- Set the audio input level on the VO-6800/6800PS to -60 dB.
- Set the input selector switch on the AG-7400 to Y.C.
- Set the audio input level on the VO-6800/6800PS to -60 dB.
- When the BVV-5/5PS is used as a portable VTR, a V.A.-5/P VTR Composite/Component Adapter is required.
- Set the input selector switch on the AG-7400 to Y.C.

Connecting a Number of Cameras (Using a Camera Control Unit)

When using a number of cameras in the studio, it may be necessary to use a CCU-M5/M5P/M7/M7P Camera Control Unit to provide video and color sync between cameras, and special effects and other devices to allow switching, wipes and so forth.

In the studio it may also be convenient to use a DXF-41/51 Viewfinder.

- When using a camera control unit, put the camera head into the EZ mode off state beforehand (see page 14). (Otherwise, it is impossible to access the advanced menu.)
- With the DXC-D35/D35P/D35WS/D35WSP, color matrix switching on the CCU-M5/M5P is invalid.
- When the DL in advanced menu page 2 is set to ON (see page 64) and the OUTPUT/DL/DCC+ switch is set to DL, knee adjustment does not function on the CCU-M7/M7P.

The figure in the next page shows an example studio configuration.

For details, consult your Sony dealer.

VTR selector settings on the CA-537/537P

Connected VTR	VTR selector switch setting	Video output signal	Audio output signal level
Sony broadcast and professional VTRs: BVU-150/150P and VO-6800/6800PS	1	Composite	-50 dB
Sony professional VTRs: BVU-50/50P, VO-6800/6800PS, BVW-50/50P and BVW-50PS	3	Y/C	-50 dB
Panasonic AG-6400	2	Composite	-20 dB
VHS VTR [®]	4	Y/C	-20 dB

VTR selector settings on the CA-537/537P

Connected VTR	VTR selector switch setting	Video output signal	Audio output signal level
Sony professional VTRs: VTRs, VO-8800/8800PS and EVW-9000P	3	Y/C	-60 dB
Panasonic AG-6400	2	Composite	-20 dB
Panasonic AG-7400 S-VHS VTR	3	Y/C	-20 dB

VTR selector settings on the CA-537/537P

Connected VTR	VTR selector switch setting	Video output signal	Audio output signal level
Panasonic AG-7400 S-VHS VTR	3	Y/C	-60 dB

VTR selector settings on the CA-537/537P

Connected VTR	VTR selector switch setting	Video output signal	Audio output signal level
Panasonic AG-7400 S-VHS VTR	3	Y/C	-60 dB

VTR selector settings on the CA-537/537P

Connected VTR	VTR selector switch setting	Video output signal	Audio output signal level
Panasonic AG-7400 S-VHS VTR	3	Y/C	-60 dB

VTR selector settings on the CA-537/537P

Connected VTR	VTR selector switch setting	Video output signal	Audio output signal level
Panasonic AG-7400 S-VHS VTR	3	Y/C	-60 dB

VTR selector settings on the CA-537/537P

Connected VTR	VTR selector switch setting	Video output signal	Audio output signal level
Panasonic AG-7400 S-VHS VTR	3	Y/C	-60 dB

VTR selector settings on the CA-537/537P

Connected VTR	VTR selector switch setting	Video output signal	Audio output signal level
Panasonic AG-7400 S-VHS VTR	3	Y/C	-60 dB

VTR selector settings on the CA-537/537P

Connected VTR	VTR selector switch setting	Video output signal	Audio output signal level
Panasonic AG-7400 S-VHS VTR	3	Y/C	-60 dB

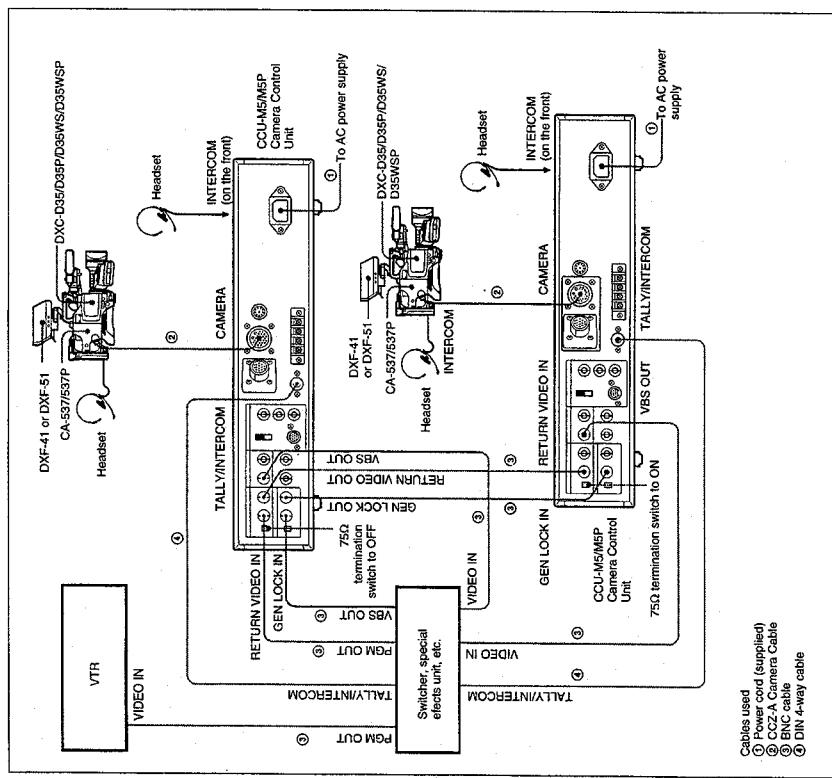
VTR selector settings on the CA-537/537P

Connected VTR	VTR selector switch setting	Video output signal	Audio output signal level
Panasonic AG-7400 S-VHS VTR	3	Y/C	-60 dB

VTR selector settings on the CA-537/537P

Connected VTR	VTR selector switch setting	Video output signal	Audio output signal level
Panasonic AG-7400 S-VHS VTR	3	Y/C	-60 dB

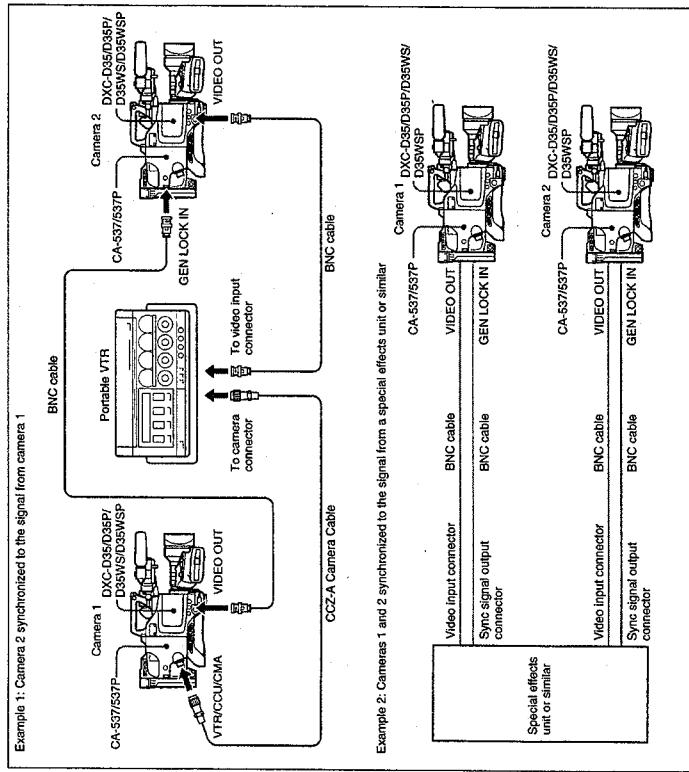
Connections



Chapter 2 Fitting and Connections

Connecting a Number of Cameras (Without Using a Camera Control Unit)

When using two or more synchronized cameras without a camera control unit, connect an external sync signal to the GEN LOCK IN connector on the camera adaptor (CA-537/537P etc.), supplying a VBS or BS signal. The camera will then operate synchronized to this signal. You can adjust the synchronization using the basic menus. (See page 59.)



Chapter 2 Fitting and Connections

Power Supply

This unit operates on either a battery pack or an AC supply (using the optional CMA-8A/ACE AC Adapter).

For details of the power supplies which can be used, refer to the documentation supplied with the VTR connected to this unit or the camera adaptor.

Using an Anton Bauer Intelligent Battery System and Ultralight System

Fitting the special battery mount made by Anton Bauer Corporation to this unit allows you to use their Intelligent Battery System and Ultralight System.

For details, consult your Anton Bauer products supplier or Sony dealer.

Battery pack operating times

The following table shows approximate continuous operating times, when operating the camera and 1.5-inch viewfinder at normal temperatures, with a camera adaptor and an DSR-1/1P or PVV-3/3P connected.

Approximate operating times with a fully-charged battery pack

DXC-D35/D35P

Battery pack	With camera adaptor	With DSR-1/ 3P	With PVV-3/ 3P
NP-1B	110 minutes	60 minutes	60 minutes
NP-1A	95 minutes	45 minutes	50 minutes
BP-90A ^a	—	130 minutes	140 minutes

DXC-35WSL/D35WSPL

Battery pack	With camera adaptor	With DSR-1/1P or PVV-3/3P
NP-1B	95 minutes	50 minutes
NP-1A	70 minutes	35 minutes
BP-90A ^a	—	105 minutes

a) Requires the special-purpose DC-500 Battery Case.

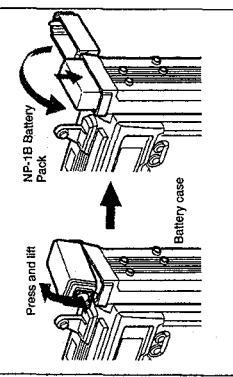
Notes

- Be careful that other metal objects do not come in contact with the metal parts of the battery pack, as this could cause a short.
- Do not leave the battery pack in the camera if it is not going to be used for a long time.

• If the battery pack is recharged after use while still hot, it may not be possible to obtain a full charge.

Fitting a battery pack (NP-1B)

Open the lid of the battery case, insert a fully-charged battery pack, and close the lid.



When the voltage of the supply to the camera head lowers to or below 11.0 V, the battery voltage indication appears in the viewfinder. At this time, the BATT indicator in the viewfinder flashes when operating with the DSR-1/1P or PVV-3/3P. If you continue using the camera head, the BATT indicator lights up.
When the battery pack is low, replace it with a fully-charged battery pack.

Battery pack charging

Before using a battery pack, charge it as shown in the following table.

Battery pack	Battery charger	Approximate charging time (normal temperature)
NP-1A	BC-1W/D1WDCE, BC-3-10/410CE	70 minutes
NP-1B	BC-1W/D1WDCE, BC-4-10/410CE	95 minutes
BP-90A	BC-4-10/410CE	160 minutes

For details of battery charger operation, refer to the instructions provided with the battery charger to be used.

Camera Adaptor Power Supply

The camera adaptor automatically operates on power supplied to the VTR/CCU/CMA connector from the portable VTR, CCU-M7/M7P Camera Control Unit, CMA-8A/8ACE AC Adapter or other connected device.

Note

Before use, check that the device connected to the VTR/CCU/CMA connector is able to provide the power required by the camera. If it is not able to provide the necessary power, or when it is necessary to prolong the operating time, use the camera with a separate power supply.

Battery low indications

Always fully charge a battery pack before using it.

Notes

- Be careful that other metal objects do not come in contact with the metal parts of the battery pack, as this could cause a short.
- Do not leave the battery pack in the camera if it is not going to be used for a long time.
- If the battery pack is recharged after use while still hot, it may not be possible to obtain a full charge.

Fitting a battery pack (NP-1B)

Open the lid of the battery case, insert a fully-charged battery pack, and close the lid.

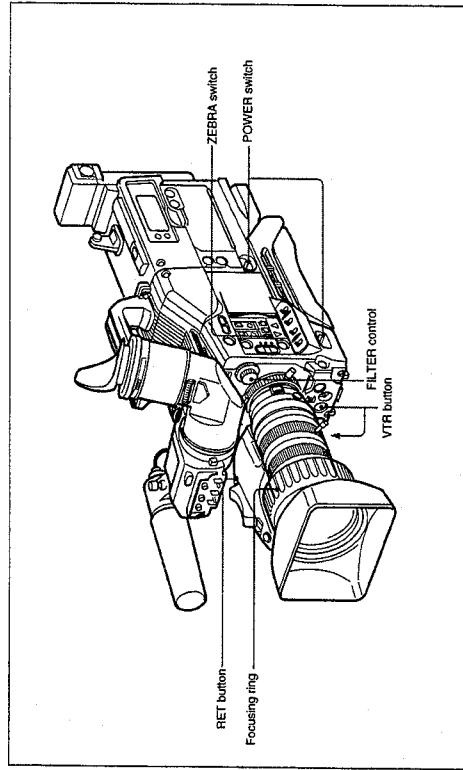


3

Chapter

Shooting

Basic Procedure for Shooting



- 1 Attach the VTR or camera adaptor to the camera head, then turn each device's power on.
- 2 Set the FILTER control appropriately for the lighting conditions.

(continued)

Basic Procedure for Shooting

Filter setting	Lighting conditions
1 (5200K)	Studio halogen lighting (incandescent), sunrise and sunset.
2 (5600K + 1/4 ND)	Sunlight. This setting includes a 1/4 neutral density filter (reducing the exposure by the equivalent of three stops). Use it to prevent hunting* or to reduce the depth of field*.
3 (5600K)	Cloudy or rainy outdoor shooting, and fluorescent lighting.
4 (5600K + 1/4 ND)	Sunlight. This setting includes a 1/4 neutral density filter (reducing the exposure by the equivalent of six stops). Use it to prevent hunting* or to reduce the depth of field*.

3 Check the switch settings on the camera head.

(See pages 13 to 18.)

If there is not sufficient time to check the camera settings, you can use "easy mode" by setting the EZ MODE switch to the ON position. The camera is automatically adjusted to standard settings, and the iris and the white balance are adjusted automatically. (See page 68.)

4 Check the settings in the basic menu (page 58) and advanced menu (page 64).

5 Check the lens settings (pages 30 and 31) and flange focal length adjustment (page 59).

6 Adjust the eyepiece focus, and the contrast and brightness of the viewfinder image (page 58).

7 Check the sound system settings.

- Microphone connections
• Settings on the VTR (refer to the VTR instructions)

8 If required, switch on the center marker and/or safety zone (basic menu page 5 and advanced menu page 4) and zebra pattern (ZEBRA switch) in the viewfinder image.

9 Adjust the white balance (page 79) and black balance (page 83).

.....
1) Hunting: This occurs if the automatic iris function is not able to reach a stable state, and as a result the image brightness keeps changing, alternately lighter and darker.

2) Depth of field: This is the range over which the subject is sharply in focus.

10 Turn the focusing ring so that the subject is sharply in focus. It may be convenient to use the EZ FOCUS button for the "easy focus" function (see page 14).

11 Set up the VTR according to your shooting objectives, then start recording.
If a camera control unit is not connected: Press the VTR button on the camera head or on the lens.
If a camera control unit is connected: Press the VTR's record button to begin recording.

For details of VTR setup and operations, see your VTR's operating instructions.

Reviewing the recording

It is possible to review the last few seconds of the recording on the tape (recording review). Press the VTR button to pause recording, then press the RET button on the lens.

Depending on how long the button is pressed, the tape is automatically rewound over the last two to ten seconds from the paused position, and then this part is played back in the viewfinder. If the RET button is kept pressing, about ten seconds of the recording review is possible. The VTR then returns to the paused state.

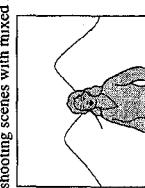
Note

This function may not be provided by some VTRs. Refer to the instructions for the VTR.

Using the Dynalatitude Function

This function detects the bright and dark parts of the subject and automatically adjusts for the appropriate contrast. The Dynalatitude function enables fine-grained contrast adjustment according to the luminance level of each pixel. It is effective when shooting scenes with mixed light and dark parts.


DL ON



However, the brightness of the subject on the screen may change if the subject moves during shooting. Also, for some subjects, there may be increased noise in dark sections of the picture.

For information on turning this function on and off, see page 64. For information on setting effect levels, see page 59.

Shooting with the DSR-1/1P

The DXC-D35/D35P/D35WS/D35WP docks with the DSR-1/1P to configure a DVCAm Camcorder. The following describes how to shoot using a DVCAm camcorder.

Using the ClipLink Function

The ClipLink function can be used at all stages from shooting to editing. This function makes editing operations more efficient by automatically recording index pictures (Mark IN point images) that provide a searchable index of recorded scenes, along with other data such as time code and scene numbers.

For concept of the ClipLink function, see the section "What Is ClipLink?" (page 102).

1 Dock the DSR-1/1P to the camera head and turn on the power, then perform steps **2** to **10** from "Basic Procedure for Shooting" (page 43).

For details of this operation, see the operating instructions for the DSR-1/1P.

The following display appears on the viewfinder screen.

ClipLink mode indication:	CLIP M or CLIP M+G
Clip remaining:	55
Indicates the number of available index pictures (198 max.)	99.04 01 10.10

a) For details, see "Basic menu page 6" (page 60).

To record the cassette name/number

Access basic menu page 6 to specify a name or number for the inserted cassette.

For details, see "Basic menu page 6" (page 60).

3 Press the VTR button on the camera head or the lens.

The DSR-1/1P starts recording, and the REC/TALLY indicator lights in the viewfinder.

Meanwhile, the time code at the recording start point (Rec IN) is recorded (HH:MM:SS) in the DSR-1/1P's internal memory.

4 When a shooting of the scene completes, press the VTR button on the camera head or the lens.

This pauses recording.

To continue recording the next scene, repeat steps **3** and **4**. The scene number will be automatically incremented.

To set/clear NG (No Good)

If you press the NG button before you start shooting the next scene, the previous scene will be designated as "NG" (the "NG" display appears in the viewfinder).

Once NG has been set, you can cancel it by pressing the NG button again before you start shooting the next scene (the "NG" display disappears in the viewfinder). Each time you press the NG button before starting shooting the next scene, the status of the previous scene toggles between "NG" and "OK". It is always the last selected status that will take effect and be stored in the cassette memory.

5 To finish recording, press the STOP button on the DSR-1/1P.

This stops recording.

Note

When using the ClipLink function while shooting, if you continue shooting after stopping or if you change the tape's recording position, your subsequent shots may overwrite and erase the previously recorded ClipLink log data (time codes, scene number, etc.) or index pictures.

To avoid this problem, press the DSR-1/1P's ClipLink CONTINUE button before restart of shooting.

For details, see the operating instructions for the DSR-1/1P.

5 Press the TAKE button when you find a shot where you would like to set a Mark OUT point.

The TAKE/TALLY indicator (orange) goes out in the viewfinder and the "TAKE" disappears from the screen. At this time, the time code (HH:MM:SS) at the Mark IN/OUT point for scene 001 is recorded to the DSR-1/1P's internal memory, and then recorded to the cassette memory.

To set/clear NG

If you press the NG button before you set the next Mark IN point, the previous scene will be designated as "NG" (the "NG" display appears in the viewfinder).

Once NG has been set, you can cancel it by pressing the NG button again before you set the next Mark IN point (the "NG" display in the viewfinder disappears).

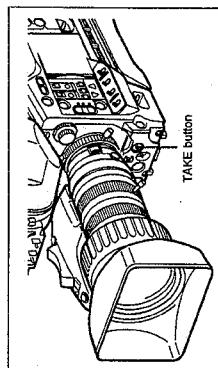
6 Repeat steps 4 and 5 as needed to record (to cassette memory) time codes at Mark IN/OUT points, scene numbers, and NG designations to the cassette memory.

The scene number is automatically incremented each time you specify a Mark OUT point.

7 To finish shooting, press the VTR button on the camera head or the lens, then press the DSR-1/1P's STOP button.

This stops the recording operation.

The index pictures of each Mark IN point are recorded onto the tape.



The TAKE/TALLY indicator (orange) lights in the viewfinder and "TAKE" appears on the screen.

4

Chapter

Viewfinder Screen Indications and Menus

Viewfinder Screen Indications

There are four types of indication screen which appear in the viewfinder, as follows.

- **Normal indications**

These show the operating state of the camera and connected VTR. (See page 54.)

- **Status indications**

Pressing the MENU/STATUS switch up while the normal indications are present calls a display of current settings. (See page 57.)

- **Basic menu**

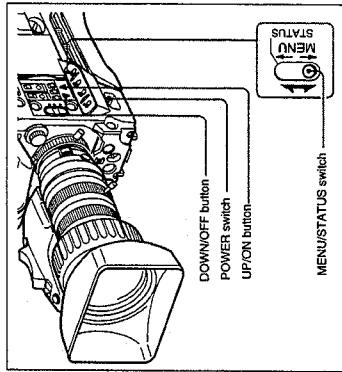
These provide settings for the lens iris, shutter speed and so forth, and also tilting screen. (See the section "Viewfinder Basic Menu," page 58.)

- **Advanced menu**

These provide settings for the center marker, zebra

pattern, viewfinder screen indications, and so forth.

(See the section "Viewfinder Advanced Menu" page 64.)



Displaying the normal indications and switching to the basic menu

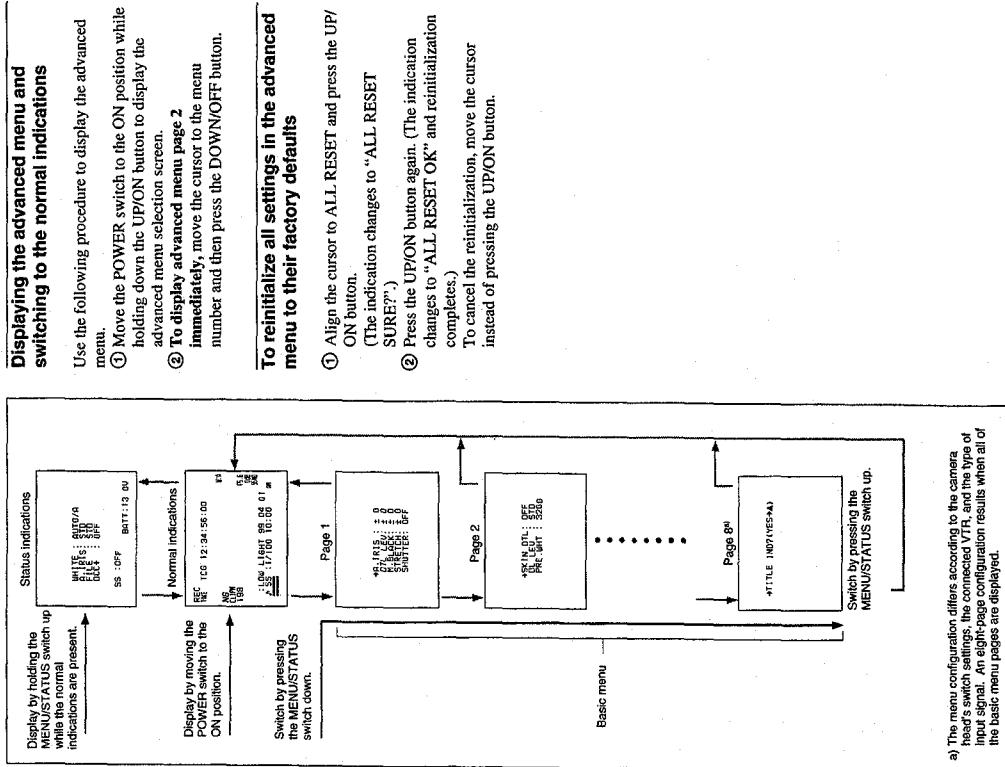
To display the normal indications, move the POWER switch to the ON position.
To switch to and from the basic menu, use the MENU/STATUS switch.

Changing the Viewfinder Display

Use the buttons and switches shown in the following figure to switch the viewfinder display among the normal indications, basic menu pages and advanced menu pages.

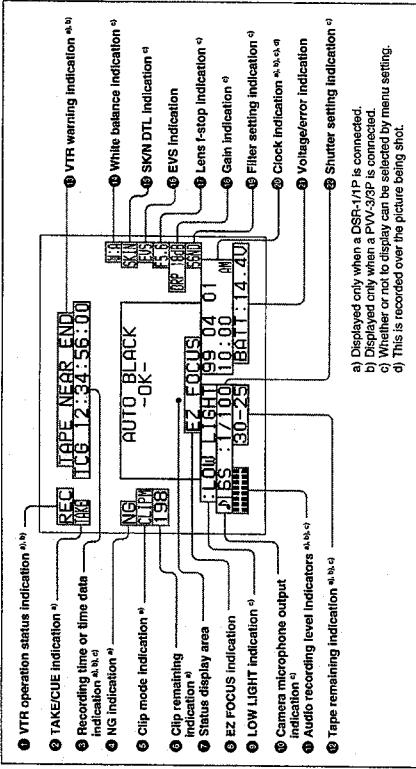
Viewfinder Screen Indications

DXC-D35/D35WS(UC)
DXC-D35P/D35WSP(CE) V1



Viewfinder Normal Indications

During normal operation, the following items can be indicated in the viewfinder.



The significance of each of the indications shown in the figure is as follows.

① VTR operation status indication
This indicates the VTR's current operation status (REC, PLAY, etc.).

② TAKE/CUE indication
This displays a TAKE or CUE indicator when using the ClipLink function and recording with the DSR-1/1P.
TAKE: When recording in Mark mode, this indication appears when a Mark IN point is set, and disappears when the next Mark OUT point is set.
CUE: When recording in Cue mode, this indication appears for about 1 second when a cue point is set.

③ Recording time or time data indication
This shows the following values.

- When the REC/TIME switch on the camera is in the TTL position: The total recording time
- When the REC/TIME switch on the camera is in the DUR position: The duration of the current recording cut

⑤ Clip mode indication
A "CLIP M" or "CLIP C" indication appears when you use the ClipLink function and record using the DSR-1/1P.

CLIP C: Indicates shooting in Cue mode
CLIP M: Indicates shooting in Mark mode
CLIP: The number of available index pictures remaining is displayed when you use the ClipLink function with the DSR-1/1P.

⑦ Status display area

One of the following values or messages is displayed to indicate the camera head's current status or its operation status.

- New values when changing camera head's settings
- Messages indicating progress or results of adjustments
- The camera head's current settings
- Setup/Log data recorded to tape during shooting (see page 78)

Note

The status indication is not shown while the EZ FOCUS indication ③ appears.

⑧ EZ FOCUS indication
This appears when the EZ FOCUS button is pressed, enabling the "easy focus" function.

⑨ LOW LIGHT indication
This warning appears if the lighting level is inadequate.

⑩ Camera microphone output indication
This appears when there is an input from the camera microphone.

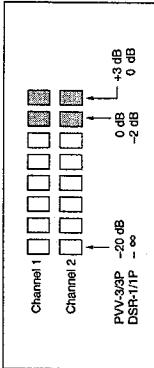
Note

This indication serves as a check on whether the camera microphone is operating correctly, but it does not provide confirmation that the VTR is recording sound. Check that the audio recording levels on the VTR are set correctly.

⑪ NG indication

An "NG" (No Good) indicator appears if you designate a recorded scene as "NG" when using the ClipLink function and recording with the DSR-1/1P.

⑫ Audio recording level indicators
These show the recording levels of audio channels 1 and 2 on the VTR.



⑬ Tape remaining indication
This shows the tape remaining in the VTR as follows.

Indication	Tape remaining
F:30	At least 30 minutes
30:25	25 - 30 minutes
25:20	20 - 25 minutes
20:15	15 - 20 minutes
15:10	10 - 15 minutes
10:5	5 - 10 minutes
5:0	2 - 5 minutes
5:0 (flashing)	0 - 2 minutes

Chapter 4 Viewfinder Screen Indications and Menus

⑭ VTR warning indication

This shows warning indications about operation or status of the connected VTR.

When connecting the DSR-1/1P or PVV-3/3P

Indication	Meaning
NO TAPE	There is no tape loaded.
REC INHIBIT	The tape is in the recording inhibited state.
LOW BATT.	The battery is almost exhausted.
BATT. END	The battery is exhausted.
TAPE NEAR END	The tape is near the end.
TAPE END	The tape is at the end.
CHECK REMOTE	A device other than a remote control unit (eg. headphones) is connected to the REMOTE connector.
SERVO	The servo lock has been lost.
HUMID	There is condensation.
RF	The video heads are clogged, or there is some other fault in the recording system.
SLACK	The tape is not wound properly.
OXIDE TAPE	An oxide tape has been loaded. (The tape is automatically ejected.)
(PVV-3/3P only)	

Viewfinder Normal Indications

Only when connecting the DSR-1/P

Indication	Meaning
50P CONNECT	Connection with the PRO 50-pin connector on the DSR-1/P. (Freeze mix function is disabled.)
MP TAPE	An incorrect type of cassette has been loaded. (The cassette is automatically ejected and the indication disappears in about two seconds.)
CLIP DATA ERR	Abnormality of the cassette memory data.
AUDIO 48kHz?	At back space editing, audio recording mode has changed from 32 kHz mode (4-channel mode) to 48 kHz mode (2-channel mode).
AUDIO 32kHz?	At back space editing, audio recording mode has changed from 48 kHz mode (2-channel mode) to 32 kHz mode (4-channel mode).
ERROR #1-13F	Failure in loading or saving the cassette memory data. When other error indication appears, refer to the operating instructions for the DSR-1/P.
CLIP CONT?	Asking whether you will continue shooting in ClipLink mode or not when the cassette contains ClipLink data. (This indication disappears when you press the ClipLink CONTINUE button on the DSR-1/P or start the next shooting without pressing it.)
CLIP NEAR END	At back space editing in ClipLink mode, capacity of only 1 to 3 index pictures remains.
CLIP END	Impossible to record any more clip shots.

Indication	Meaning
EZ	Operating in EZ mode (The ATW function is selected.)
ATW	The ATW function is selected. (The ATW button was pressed, and the indicator is lit.)
W/A	White balance memory A is selected.
W/B	White balance memory B is selected.
W/P	Preset white balance is selected.
W/M	Manual adjustment is performed remotely.

Indication	Meaning
SKIN DTI	This appears when the skin detail function is activated (The SKIN DTI switch is set ON.)

DXC-D35/D35WS(UC)
DXC-D35P/D35WSP(CE) V1

⑥ EVS indication

This appears when the EVS (Enhanced Vertical definition System) function is enabled. (See page 84.)

⑦ Lens f-stop indication

This shows the f-stop of the lens.

Note

Depending on the lens being used, this indication may differ slightly from the actual f-stop on the lens.

⑧ Gain indication

This shows the gain value, and the settings of the HYPER GAIN switch and the DPR (Dual Pixel Readout) function (see page 64) as shown in the following table.

Example indication	Meaning
18dB	Gain setting is 18 dB.
DPR 18dB	The DPR function is enabled. In this case the DPR function approximately doubles the gain (an increase of 6 dB) over the current gain setting (in this case 18 dB).
HYPER	The HYPER GAIN switch is in the ON position. In this case the hyper gain function increases the gain by a factor of 60 or 120 with respect to 0 dB regardless of the current gain setting (that is, increased to 36 or 42 dB).

⑨ Filter setting indication

This shows the setting of the FILTER control.

Indication	Filter setting
3200	1 (3200K)
56ND	2 (5600K + 1/4 ND)
5600	3 (5600K)
56ND	4 (5600K + 1/4 ND)

⑩ White balance indication

The following indications appear.

Indication	Meaning
ATW	The ATW function is selected. (The ATW button was pressed, and the indicator is lit.)
W/A	White balance memory A is selected.
W/B	White balance memory B is selected.
W/P	Preset white balance is selected.
W/M	Manual adjustment is performed remotely.

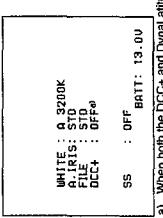
⑪ SKIN DTI indication

This appears when the skin detail function is activated (The SKIN DTI switch is set ON.)

Status Indications

⑫ Voltage/error indication

If you set the MENU/STATUS switch to STATUS while a menu is being displayed, the camera head's current setting status will be shown in this display area.



Display	Description
WHITE	White balance adjustment method selection (P/RE(A/B)) and color temperature during auto white balance adjustment
AURIS	Iris adjustment method selection (STD/SPOT (BLACK L))
FILE	STD (When not using the setup files) or a selected file name (when using the setup files) (see page 71).
DC-C+ or DL	For DC-C+ Indication: ON with the OUTPUT/DLDCC+ switch set to CAN/DCC+(DC-C+), and OFF with the switch set to AW/DL, and DL in advanced menu page 2 (page 64). For DL Indication: When setting the OUTPUT/DLDCC+ switch to DL, and DL in advanced menu page 2 (page 64) to OFF (both DC-C+ and Dynalatitude OFF). For DL-LEV Indication: When setting the OUTPUT/DLDCC+ switch to DL, and DL in advanced menu page 2 (page 64) to OFF (Dynalatitude OFF), LOW, STD or HIGH is displayed according to DL-LEV setting in basic menu page 2 (page 59).

Chapter 4 Viewfinder Screen Indications and Menus

OFF: Not displayed
If the clock indication is displayed during recording, it is recorded onto the image.

Viewfinder Basic Menu

To display the basic menu pages, press the MENU/STATUS switch downward while the normal indications are being shown in the viewfinder. The basic menu configuration can include up to eight pages (the configuration depends on the switch settings and the type of connected VTR).

Basic Menu Operations

The common operations on all basic menu pages are described below.

To change the page or item

The cursor is moved downward each time you press the MENU/STATUS switch down. Once the cursor has reached the last item on a page, press down the MENU/STATUS switch to go to the next page. When the last page is being displayed, pressing down the MENU/STATUS switch returns the display to the normal indications.

The cursor is moved upward each time you press up the MENU/STATUS switch. Once the cursor has reached the first item on a page, pressing up the MENU/STATUS switch returns the display to the normal indications.

To change settings

After using the MENU/STATUS switch to move the cursor to the item on which you will change the setting, press either the UP/ON button or the DOWN/OFF button to select the desired value. To reset any item to its shipped settings, press the UP/ON button and the DOWN/OFF button at the same time.

Contents and Settings of Each Page

Each page's contents and settings are described below.

On the DXC-D35WSL/D35WSPL, when the MENU MODE is set to 2 in advanced menu page 9, a page for aspect ratio settings (16:9/4:3) is added before basic menu page 1.

Basic menu page 1



Item	Settings
A.IRIS	-10 to +10 (normal value) to +45
DL.LEV	+10
PRE.WHT	When the FILTER control is set to 1 (3200K): 2200 to 3200 (normal value) When the FILTER control is set to 2 to 4000 (5600K + 1/4 ND), 3 (5600K) or 4 (5600K + 1/4 ND): 4600 to 5600 (normal value) to 12000

Basic menu page 3

This is displayed when the SET UP switch has been set to FILE.



For details of this operation, see "Setup Files" (page 71).

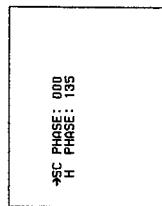
Basic menu page 2

This menu is displayed only when an external sync signal is input to the camera adaptor or VTR connected to the camera feed.



Basic menu page 4

This menu is displayed only when an external sync signal is input to the camera adaptor or VTR connected to the camera feed.



Basic menu page 5

This menu is displayed only when an external sync signal is input to the camera adaptor or VTR connected to the camera feed.



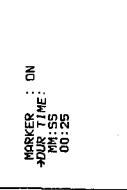
Viewfinder Basic Menu

DXC-D35/D35WS(UC)
DXC-D35P/D35WSP(CE) V1

Item	Settings
MARKER Sets MARKER display ON/OFF.	ON (normal value), OFF MARKER is displayed when this setting is ON and is not displayed when it is OFF. When the setting is ON, go to Advanced Menu 4 to select the type of marker. (see page 46).
DUR TIME Sets the recording time	Setting the recording time before shooting helps you with masking scenes of equal duration. When shooting with displaying the recording line of the current cut in the viewfinder (with the REC TIME switch set to DUR), the recording time indication flashes to remind you that the recording time has passed.

Setting the recording time in seconds
Move the cursor to DUR TIME, then press the UP/ON button or DOWN/OFF button.

A value of seconds is displayed under "SS".

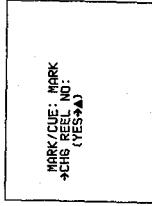


Chapter 4 Viewfinder Screen Indications and Menus

Item	Settings
MARK/CUE Selects MARK mode or CUE mode	MARK (normal value), CUE See "Using the ClipLink function" (page 49).
CUE REEL NO.	See "To set the cassette name/number" below.
Settings	MARK/CUE Selects MARK mode or CUE mode

To set the cassette name/number (when using DSR-1/1P)

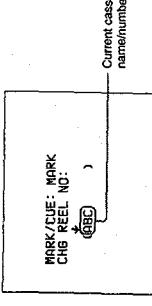
- 1 Connect the DSR-1/1P and load a cassette.
- 2 Press the MENU/STATUS switch to move the cursor to CUE REEL NO., then press the UP/ON button.



7

Check your cassette name/number setting, and press the UP/ON button if no more changes are required. (To make changes or to abort the procedure for this setting, return to step 2.)

The cursor (→) changes to the text entry arrow (↓) and the current cassette name/number is displayed. ("NO TAPE" is displayed if you neglected to load a cassette.)



Item	Settings
Basic menu page 6	The following display is shown when the DSR-1/1P is connected.

3 Press the MENU/STATUS switch to move the text entry arrow.

Press the MENU/STATUS switch upward to move the cursor to the right or downward to move it to the left.
The character cycles through the following sequence.

- 4 Press the UP/ON button or DOWN/OFF button to enter the desired characters.

The displayed character changes each time the UP/ON button is pressed. It changes in reverse order each time the DOWN/OFF button is pressed.

- 5 Return to step 2 and repeat the text entry procedure.

6 After completing text entry, move the text entry cursor to the parenthesis position.

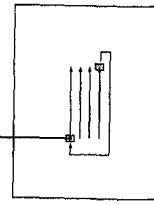
The display changes as follows.



Initial cursor position

Chapter 4 Viewfinder Screen Indications and Menus

1 Press the MENU/STATUS switch as necessary to display basic menu page 7 (title setting display) in the viewfinder.



- 3 Press the DOWN/OFF button to move the cursor to the position where you wish to insert a character.

To move the cursor back
With the DOWN/OFF button held down, press the UP/ON button.

(continued)

Viewfinder Basic Menu

4 Press the UP/ON button to select the required character.

Each time you press the UP/ON button, the character cycles through the following sequence.
[secret] JUNIORSTATUS@27.x0123456789<-->□ (Space)

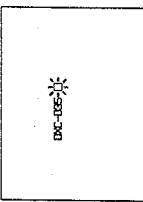
To reverse the character sequence
With the UP/ON button held down, press the DOWN/OFF button.

5 Press the DOWN/OFF button to confirm the character selection.

The cursor advances to the next character position.

To change a character after confirming it
Return to step 3, and input the character again.

6 Repeat steps 4 and 5 until the title is complete.



2 Press the UP/ON button once.

The title is superimposed to the picture displayed on the viewfinder screen.

3 Start shooting.

4 To stop the title recording, press the MENU/STATUS switch to clear the title display.

Note: On using the CCU-M5/MSP Camera Control Unit.

When the CCU-M5/MSP has a function switch setting of "TITLE ON", the title display takes precedence, and the status display (see page 57) do not appear in the normal indications. However, when you press the MENU/STATUS switch up, for as long as you hold it up the status indications appear in place of the title.

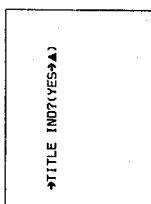
When "CHECK DIAG" is displayed

The "CHECK DIAG" indication appears in the status display area whenever the camcorder's automatic self diagnostic function detects an abnormality. Access this page and perform error checking. (This page is displayed as basic menu page 1.) "CHECK DIAG" will also be displayed if there is a problem on the sync signal input to the GPN LOCK IN connector. Input a proper sync signal and then perform error checking.



To record a title (page 8)

1 Press the MENU/STATUS switch as necessary to access basic menu page 8 (title display).

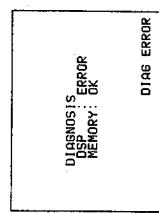


To perform error checking

Press the UP/ON button.

The error checking performs on the digital signal processing (DSP) and memory circuits and the results are displayed.
When no error is detected, "OK" appears.

Example: If an abnormality is detected in the DSP circuit.



Viewfinder Advanced Menu

Bring up the advanced menu pages by setting the POWER switch to ON while pressing the UP/ON

button up (see page 52). There are up to 15 advanced menu pages (the number displayed depends on the switch settings and the type of connected VTR).

Note on E7 mode

Note on EZ mode
When the camera is in EZ mode, the advanced menu does not appear. Release the EZ mode beforehand.
(See page 14.)

Advanced Menu Operations

卷之三

To change the page

Move the cursor to the menu number, then press the **DOWN** key.

Down-pressing the UP/ON button divides the previous menu.

Pressing the UP/ON button displays the previous page and pressing the DOWN/OFF button displays the next page. Pressing the DOWN/OFF button when the last

page. Pressing the DOWN/ENTER button when the last page is being displayed returns the display to the first page.

To select items in a page

Press the MENU/STATUS switch to move the cursor among the menu items.

卷之三

This section provides some basic means

For a description of heroic menu operations see page 58.

For a description of basic menu operations, see page 50.

To return to the normal indications

Move the cursor to EXIT MENU, then press the UP/ON button.

卷之三

Contents and Settings of Each Page

Each page's contents and settings are described below.

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DXC-D35/D35WS(UC)
DXC-D35P/D35WSP(CE) V1

Viewfinder Advanced Menu

Item	Settings
VF TALLY	x1: Uses only the upper REC/TALLY indicator. more than one REC/TALLY indicator in the viewfinder (displayed only when the DXF-701/701CE/701WS/701WSE/801/801CE viewfinder is attached).
VF PLAY	Y (normal value): Y signal VBS: Composite video signal
LENS SEL	1 (normal value), 2, 3, 4 For details, see "Designating the lens" on page 30.
SKIN IND ^a	Selects whether or not to show the setting for skin balance switch.

Advanced menu page 5

Item	Settings
SS IND ^a	ALWAYS IND: ON LTC: ON TRIS: ON BAIN: ON FILTE: ON WHITE: ON SKIN: ON EXIT MENU (YES→A)
3SEC ^a	Displays shutter setting for three seconds only when the setting has been changed. ALWAYS (normal value): Displays the shutter setting at all times.

Advanced menu page 6

Item	Settings
AUDIO IND ^a	ON (normal value): Displays. OFF: Not display.
LL IND ^a	Selects whether or not to show the LOW LIGHT indication on the normal indications when inadequate lighting is detected.
MIC IND ^a	Selects whether or not to show the camera microphone output indication on the normal indications.
IRIS IND ^a	Selects whether or not to show the lens's F-stop value (f/its indication) on the normal indications. The F-stop value is always displayed when in EZ mode.

5 When you have finished entering the text, move the cursor to the parenthesis position.
This clears the displayed menu and returns to the normal indications.

Advanced menu page 7

PAGE 7 NEXT→▼ PREV→▲	
EZ MODE	CUSTOM ^b
A: IRIS AGC	F2.8
B: AGC LIMIT	15.5 16.5 18.5

a) At shipping, the EZ MODE is set to STD.

b) EXIT MENU (YES→A)

a) When the viewfinder's DISPLAY switch is set to OFF, indications related to these items are not displayed even when menu settings are set to ON.

b) When the viewfinder's DISPLAY switch is set to OFF, indications related to these items are not displayed even when menu settings are set to ON.

To set the camera ID

1 Press the MENU/STATUS switch to move the cursor to ID SET.

The cursor (→) changes to the text entry arrow (↓).
PAGE 8NEXT→▼ PREV→▲

AUDIO IND: ON	Current camera ID
TAPE IND: ON	
TC IND: ON	
ID IND: OFF	
SET: ↓	

EXIT MENU (YES→A)

2 Press the MENU/STATUS switch to move the text entry arrow.
PAGE 8NEXT→▼ PREV→▲

The cursor to the right or downward to move it to the left.
Press the MENU/STATUS switch upward to move the cursor to the right or downward to move it to the left.

3 Press the UP/ON button or DOWN/OFF button to enter the desired characters.
The displayed character changes each time the UP/ON button is pressed. It changes in reverse order each time the DOWN/OFF button is pressed.

4 Return to step 2 and repeat the text entry procedure.

Viewfinder Advanced Menu

EZ mode settings
The following settings are set for the camera head when EZ mode has been selected.

Item

Setting

Setup file	STD	CUSTOM
Detail level	±0	Selectable
Master black	±0	Selectable
Black stretch	±0	Selectable
Skin detail	OFF	OFF
Shutter	OFF (AE mode)	OFF (AE mode)
Freeze mix	OFF	OFF
Gain	AGC mode	AGC mode
Hyper gain	OFF	OFF
Iris control method	Automatic	Automatic
Auto iris control mode	STD	STD
Iris override	±0	Selectable
Color bar output	No output	No output
AGC upper limit	12dB	Selectable
AGC F stop value	F2.8	Selectable
AE's F stop value	F16	Selectable
ATW	ON	ON
Dynalatitude	OFF	OFF
DCC*	ON	ON
F-stop value indication	ON	ON
Filter indication	ON	ON
Clock indication	OFF	OFF

Advanced menu pages 10 to 13

Advanced menu pages 14 and 15

Item

Setting

CLOCK IND
Selects whether or not to display the dateline on the normal indications.

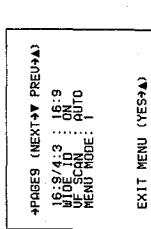
CLOCK SET
Sets date/time.

These pages are displayed only when the SET UP switch has been set to FILE.

For details of this operation, see "Using SetupNavi and SetupLog with the DSR-J1/P" (page 76).

For details of this operation, see "Setup Files" (page 71).

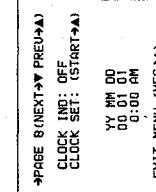
Advanced menu page 9



EXIT MENU (YES ▶)

Item	Setting
16:9/4:3	16:9 (normal value) Selects whether to put the camera in 16:9 mode or 4:3 mode.
WIDE ID	ON (normal value): Adds. OFF: Does not add.
VF SCAN	AUTO (normal value): Automatically switches to 16:9 size when the camera is in 16:9 mode, and automatically switches to 4:3 size when the camera is in 4:3 mode. FULL: Regardless of camera's mode (16:9 or 4:3), the viewfinder picture completely fills the display area.
MENU MODE	1 (normal value): Selects the 16:9 or 4:3 mode only with the advanced menu. 2: Selects the 16:9 or 4:3 mode with both the basic and advanced menus.

- a) Compared to 16:9 mode, the 4:3 mode video appears as if a zoom lens has been adjusted slightly toward the telephoto end (see figure on page 70).
- b) When the camera is in 16:9 mode, the viewfinder picture appears stretched vertically (see figure on page 70).



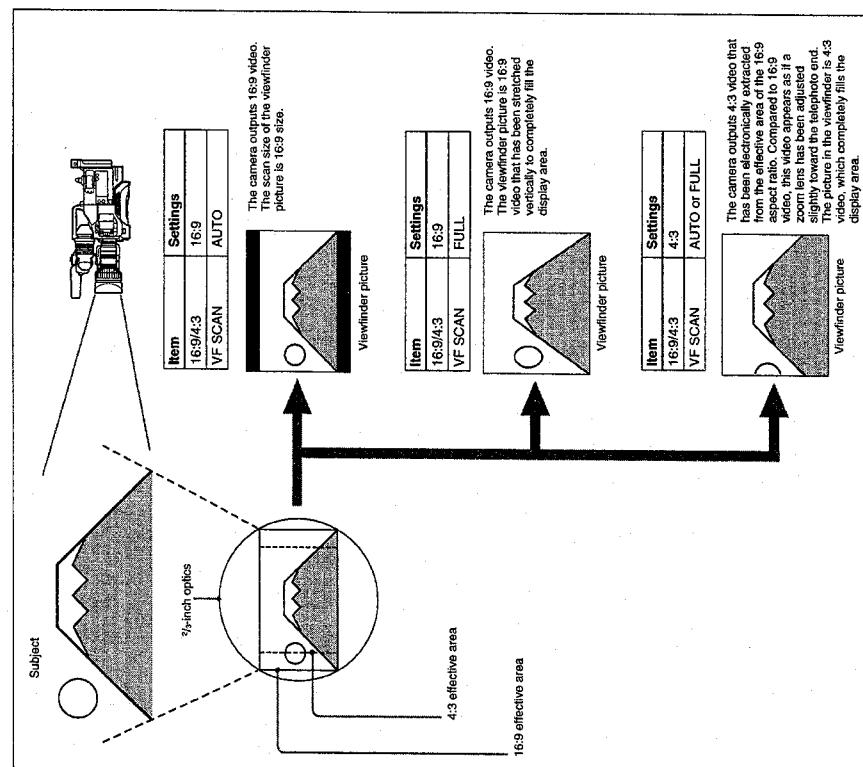
Advanced menu page 8

Viewfinder Advanced Menu

Setup Files

Video Output and Viewfinder Picture (For DXC-D35WSL/D35WSP)

The video output and viewfinder picture of this camera vary as shown below according to the settings of the 16:9/4:3 item and the VF SCAN item of the advanced menu page 9.



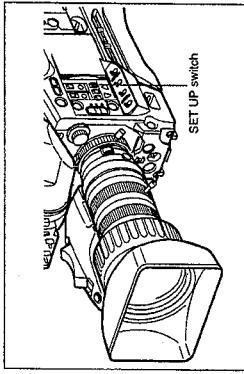
Chapter 4 Viewfinder Screen Indications and Menus

You can use setup files to reproduce a particular configuration of settings. You can also revise the contents of setup files. There are eight types of setup files, of which five are factory preset setup files and the other three are user files.

Calling up a Setup File

This describes how to call up a setup file and use it to replace the current menu settings.

1 Set the SET UP switch to FILE.



2 Access basic menu page 3.

3 Move the cursor to SELECT FILE and use the UP/ON button or the DOWN/OFF button to select the desired file.

Chapter 4 Viewfinder Screen Indications and Menus

```
FILE: *FILE
*SELECT FILE
FILE LIKE
CHG FILE
(YES→A)
```

Press the UP/ON button or DOWN/OFF button repeatedly until the desired file name is displayed.

4 Move the cursor to CHG FILE and press the UP/ON button.

The display changes as shown below and the selected file is called up.

```
FILE: *FILE
SELECT FILE
FILE LIKE
CHG FILE
DONE
```

You can also call up these files via a similar operation in advanced menu page 10. In this page, a file recorded onto a tape can also be called up (when using the DSR-I/P).

For details, see "To call up files recorded onto a tape (when using the DSR-I/P)" (page 72).

Setup Files

To call up files recorded onto a tape (when using the DSR-1/1P)

First, connect the DSR-1/1P to the camera head and load the cassette that contains the recorded files.

1 Set the SET UP switch to FILE.

2 Access advanced menu page 10.

```
PAGE 10 (NEXT ▶ PREV ▶)
FILE RECALL
FILE :FL
SELECT FILE
CHG FILE
YES ▶
EXIT MENU (YES ▶)
```

```
PAGE 10 (NEXT ▶ PREV ▶)
FILE RECALL
FILE :FL
SELECT FILE
TAPE
CHG FILE
DONE
EXIT MENU (YES ▶)
```

```
PAGE 10 (NEXT ▶ PREV ▶)
FILE RECALL
FILE :FL
SELECT FILE
TAPE
CHG FILE
YES ▶
EXIT MENU (YES ▶)
```

3 Move the cursor to SELECT FILE and use the UP/ON button or the DOWN/OFF button to select TAPE.

```
PAGE 10 (NEXT ▶ PREV ▶)
FILE RECALL
FILE :FL
SELECT FILE
TAPE
CHG FILE
YES ▶
EXIT MENU (YES ▶)
```

```
PAGE 10 (NEXT ▶ PREV ▶)
FILE RECALL
FILE :FL
SELECT FILE
TAPE
CHG FILE
DONE
EXIT MENU (YES ▶)
```

The settings of the camera head are now replaced by the settings in the called file.

4 Move the cursor to CHG FILE and press the UP/ON button.

The screen appears as shown below.

```
PAGE 10 (NEXT ▶ PREV ▶)
FILE RECALL
FILE :FL
SELECT FILE
TAPE
READY TAPE?
YES ▶
EXIT MENU (YES ▶)
```

5 Press the UP/ON button to call up the file. To abort the call up operation, press the DOWN/OFF button (the display returns to the one shown in step 3).

During the call up operation, the following display appears.

```
PAGE 10 (NEXT ▶ PREV ▶)
FILE RECALL
FILE :FL
SELECT FILE
SETUP FILE
EXIT MENU (YES ▶)
```

When the call up operation ends, the display changes as shown below.

```
PAGE 10 (NEXT ▶ PREV ▶)
FILE RECALL
FILE :FL
SELECT FILE
TAPE
CHG FILE
DONE
EXIT MENU (YES ▶)
```

The settings of the camera head are now replaced by the settings in the called file.

6 Call up files recorded onto a tape (when using the DSR-1/1P) (continued)

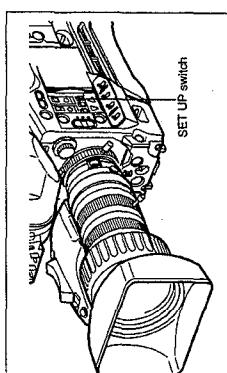
Changing File Settings

When using advanced menu page 11 or 12, you can change the settings about picture quality in setup files. (In basic menu page 1, a part of items are changeable.) The changes are accepted only until another file is called up, after which the original settings are restored. If you save the changes, store the modified file as one of the user files and record it in a cassette. (See the following section "Saving File Settings".)

- 1 Perform the steps described in "To call up files recorded onto a tape (when using the DSR-1/1P)" above to call up the selected file.
- 2 Access advanced menu page 11 or 12.

Item	Settings
SAT	-99 to +0 (normal value) to +99 Adjusts the saturation of the image. Negative adjustment values decrease the saturation and positive adjustment values increase the saturation.
HUE	-99 to +0 (normal value) to +99 Adjusts the hue of the image.
SKIN SAT	-99 to +0 (normal value) to +99 Adjusts the saturation in the specified area of the image. Negative adjustment values decrease the saturation and positive adjustment values increase the saturation.
SKIN HUE	-99 to +0 (normal value) to +99 Adjusts the hue in the specified area of the image.

Saving File Settings	
Files whose settings have been changed for certain shooting conditions can be saved as a user file or onto a tape (when using the DSR-1/1P).	For details, see "To save setup files to a tape (when using the DSR-1/1P)" (page 74).
1 Set the SET UP switch to FILE.	
2 Call up a setup file whose settings approximate the desired shooting conditions and then change some of the settings.	For details of this operation, see "Calling up a Setup File" (page 71), "Changing File Settings" (in the left column on this page), "Basic Menu Operations" (page 58), and "Advanced Menu Operations" (page 64). (continued)



- 1 Set the SET UP switch to FILE.
- 2 Call up a setup file whose settings approximate the desired shooting conditions and then change some of the settings.

Item	Settings
M.BLACK, STRETCH and DT.LEV	See "Basic menu page 1" (page 59).
M.GAMMA	-99 to +0 (normal value) to +99 Adjusts the gamma curve.
V.DTL.LEV	-99 to +0 (normal value) to +99 Adjusts the vertical detail.
DTL.FREQ	L, L, M (normal value), H, HH Adjusts the central frequency of the detail.

Page 11

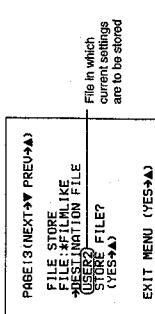
Setup Files

3 Access advanced menu page 13.



a) An asterisk (*) appears in front of any factory preset file whose contents have been revised at least once.

4 Move the cursor to DESTINATION FILE and repeatedly press the UP/ON button or the DOWN/OFF button to select USER1, USER2, or USER3.



5 Press the UP/ON button to move the cursor to STORE FILE?.

The display changes as shown below.



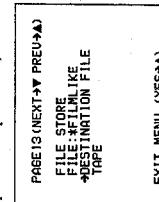
6 Press the UP/ON button to store the file. To abort the save operation, press the DOWN/OFF button (the display returns to the one shown at step 4).

When the save operation is finished, the display changes as shown below.

3 Press the UP/ON button to store the file. To abort the save operation, press the DOWN/OFF button (the screen returns to the screen shown in step 2).

The tape automatically rewinds and recording starts.

The display changes as shown below, which includes color bars. ("CAN NOT WRITE" appears on the screen if no tape is loaded or if the loaded tape is write-protected.)



After the settings are stored, the following display appears.

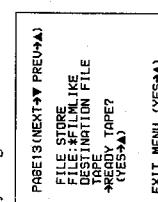


1 Perform steps 1 to 4 of "Saving File Settings" and select TAPE as the file saving destination.



2 Press the UP/ON button to move the cursor to STORE FILE?.

The display changes as shown below.



Using SetupNavi and SetupLog with the DSR-1/1P

The SetupNavi function records the setup menu and setup files onto a tape, so that the same settings can be called up and used again or copied to another camera.

The SetupLog function records a camera settings every few seconds at shooting and displays the recorded data in the viewfinder during playback.

Note on using an RM-M7G Remote Control Unit

When an RM-M7G is connected to the camera head, you cannot use the SetupNavi function. To make it possible to use the function, power OFF the camera head after disconnecting the RM-M7G, then power ON the camera head again.

Setting up the Camera Using Data Recorded on Tape

The procedure to replace camera's menu settings with settings recorded onto video tape is described here.

1 Connect the DSR-1/1P and insert the cassette onto which the data was recorded. Set the SETUP switch to FILE, then set the POWER switch to ON while holding down the UP/ON button.

Advanced menu page 1 appears.

```
*PAGE 1 (NEXT→ PREV→)
ALL RESET (YES→▲)
```

2 Repeatedly press down on the MENU/STATUS switch until advanced menu 14 appears.

For details of menu operation, see "Advanced Menu Operations" (page 64).

3 Press the UP/ON button.

```
*PAGE 14 (NEXT→ PREV→)
SETUP MENU
SETUP →FILE
RECALL DATA (YES→▲)
```

4 Change the menu settings if necessary.

5 Press the UP/ON button.

6 After the data has been read, the following display appears.

The following display appears.

7 Set the cursor to "NAME SET" and press the UP/ON button to record the menu setting onto the tape. (Press the MENU/STATUS switch to cancel.)

"NO TAPE" is displayed if you neglected to load a cassette.

3 Press the UP/ON button to call up the data recorded on the tape. (Press the DOWN/OFF button to cancel.)

The display changes as follows and the call up operation begins.

```
PAGE 14 (NEXT→ PREV→)
SETUP MENU
SETUP →FILE
RECALL DATA (YES→▲)
```

To abort the call up operation while in progress Press the DOWN/OFF button.

```
PAGE 14 (NEXT→ PREV→)
SETUP MENU
SETUP →FILE
RECALL DATA (YES→▲)
```

The following display appears.

```
PAGE 14 (NEXT→ PREV→)
SETUP MENU
SETUP →FILE
RECALL DATA (YES→▲)
```

The previous menu settings are overwritten by the data recorded on the tape.

5 Change the menu settings if necessary.

6 Press the UP/ON button.

"NO TAPE" appears if you neglected to load a cassette.

7 Set the cursor to "NAME SET" and press the UP/ON button to record the menu setting onto the tape. (Press the MENU/STATUS switch to cancel.)

Recording the Menu Settings onto a Tape

1 Connect the DSR-1/1P and load the tape onto which the settings are to be recorded. Turn the camera power on.

2 Make your basic menu settings.

For details of this operation, see "Basic Menu Operations" (page 38).

3 Again, set the POWER switch to ON while holding down the UP/ON button.

4 Make your advanced menu settings.

For details of this operation, see "Advanced Menu Operations" (page 64).

5 Access advanced menu page 15.

```
*PAGE 15 (NEXT→ PREV→)
SETUP MENU
CAMERA →TAPE
STORE DATA (YES→▲)
```

6 After completing text entry, move the cursor to the parenthesis position.

```
*PAGE 15 (NEXT→ PREV→)
SETUP MENU
CAMERA →TAPE
STORE DATA (YES→▲)
```

The display changes as follows.

```
*PAGE 15 (NEXT→ PREV→)
SETUP MENU
CAMERA →TAPE
STORE DATA (YES→▲)
```

7 After completing text entry, move the cursor to the parenthesis position.

```
*PAGE 15 (NEXT→ PREV→)
SETUP MENU
CAMERA →TAPE
STORE DATA (YES→▲)
```

8 Enter a name for the data.

Moving the text entry cursor: Press the MENU/STATUS switch up to move the cursor to the right, and press the MENU/STATUS switch down to move the cursor to the left.

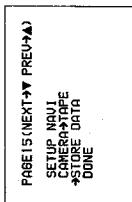
Selecting the character: Press the UP/ON or DOWN/OFF button repeatedly until the desired character appears.

9 After completing text entry, move the cursor to the parenthesis position.

Using SetupNavi and SetupLog with the DSR-1/1P

To abort the data recording while in progress
Press the DOWN/OFF button.

After the data has been recorded, the following display appears.



Status display (page 2)

PLAY TCR 12:34:56:00
SETUP LOG 2/3
SHUTTER ±1.0
F/1.8
F/2.8
SS 1/100
200

Status display (page 3)

PLAY TCR 12:34:56:00
SETUP LOG 3/3
F/1.8
SHUTTER ±1.0
SS 1/100
200

Viewing SetupLog Data

- 1 Connect the DSR-1/1P and load the tape that contains the recording to be viewed. Turn the camera power on.
- 2 Play back the tape.

For details of playback operation, see the operating instructions for the DSR-1/1P.

- 3 Press the MENU/STATUS switch up to the STATUS side.

The display changes to page 1 of the status display.

PLAY TCR 12:34:56:00
SETUP LOG 1/3 200
SHUTTER ±0.0
FILE STD
OUT ON
SKIN OVF

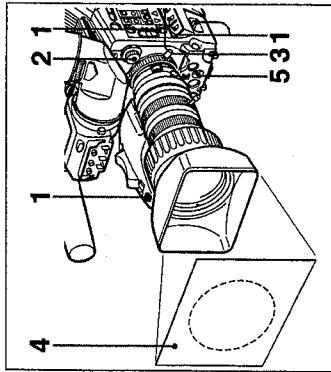
- 1 Each time you press upward the MENU/STATUS switch, the status display cycles through the status pages and playback display in the order: page 2, page 3, the playback display (containing the current settings), and page 1.

DXC-D35/D35WS(UC)
DXC-D35P/D35WSP(CE) V1

5

Chapter

Adjustments and Settings



White Balance Adjustment

Adjusting the white balance ensures that as lighting conditions change white objects remain white in the image and tones remain natural.

The color of light emitted varies from one light source to another, and as the lighting changes the apparent color of an illuminated subject changes. It is therefore necessary to adjust the white balance each time the principal lighting source changes.

Saving an Appropriate White Balance Value in Memory

You can save two white balance values in separate memories, A and B. Unless changed, the saved values are retained for approximately ten years, even when the camera is powered off. Once a value is saved, you can automatically restore the adjustment by moving the W.BAL switch to the A or B position. This makes shooting under alternating lighting conditions easy.

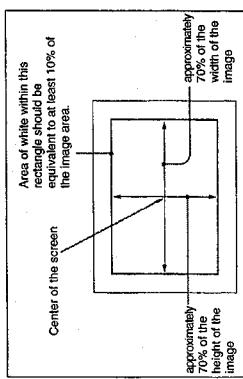
Separate white balance values for each FILTER Control setting

In the default case, as described above, the same two A and B white balance values apply to all four settings of the FILTER control. It is possible, however, to change the AWB MEM menu setting (see page 3) so that there are eight possibly different values for the A and B positions and for the four FILTER control settings.

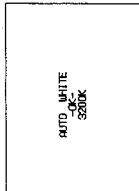
(continued)

White Balance Adjustment

4 Arrange a white subject (paper, cloth, etc.) under the same lighting conditions as for shooting, and zoom in on it so that as far as possible the whole screen is white. The minimum white area requirements for the adjustment are shown in the following figure.



5 Push the WHT/BLK switch in the WHT direction and release. During the adjustment the legend "AUTO WHITE -OF-" appears in the viewfinder. After a few seconds the adjustment is complete, and the legend in the viewfinder changes to "AUTO WHITE -OK," plus a color temperature, as shown in the following figure.



The adjustment value is automatically saved in memory A or B as selected above.

To save the white balance adjustment for different lighting conditions, repeat steps **2** to **4** above. You can save two different values for the white balance, in memories A and B.

Note

When using a camera control unit or remote control unit, if the W/B BALANCE switch or the control unit is set to PRESET or MANUAL, it is not possible to carry out white balance adjustment on the camera.

To recall a white balance value from memory
Before beginning shooting, set the W. BAL switch to the A or B position. This automatically sets the camera to the white balance adjustment saved in the corresponding memory.

If white balance adjustment cannot be completed automatically
The warning message "AUTO WHITE -NG," appears in the viewfinder. Make the necessary corrections, then carry out the process again.

Warning messages for white balance adjustment	
Message	Meaning and corrections to be made
AUTO WHITE -PRESET	The W. BAL switch is in the PRESET position. Move the W. BAL switch to the A or B position.
BARS	The camera is outputting a color bar signal. Move the OUTPUT/DL/DCC+ switch to one of the CAM positions.

Warning messages for white balance adjustment	
Message	Meaning and corrections to be made
AUTO WHITE -NG -LOW LIGHT TRY AGAIN	Light level is too low. • Increase the illumination level, open the iris, or use the GAIN switch to increase the video signal level. • Check the setting of the FILTER control. • After these checks, retry the adjustment.
AUTO WHITE -NG -?? TRY AGAIN	The subject is not white, or the lighting level is too high. • Use a white subject. • Lower the illumination level, stop down the iris, or use the GAIN switch to decrease the video signal level. • Check the setting of the FILTER control. • After these checks, retry the adjustment.
AUTO WHITE -NG -3200K TRY AGAIN	The color temperature is too low. Try the following, in this order of precedence. (1) If the FILTER control is in position 2, 3 or 4, change it to position 1; then retry the adjustment. (2) Check that the subject is completely white, then retry the adjustment. (3) The color temperature may be outside the range of the camera. Fit an appropriate color temperature conversion filter, then retry the adjustment.

Warning messages for white balance adjustment	
Message	Meaning and corrections to be made
AUTO WHITE -OK -3200K TRY AGAIN	The color temperature is too high. Try the following, in this order of precedence. (1) If the FILTER control is in position 1, change it to position 2, 3 or 4, then retry the adjustment. (2) Check that the subject is completely white, then retry the adjustment. (3) The color temperature may be outside the range of the camera. Fit an appropriate color temperature conversion filter, then retry the adjustment.
AUTO WHITE -OK -3200K TRY AGAIN	

Message	Meaning and corrections to be made
WHITE-PRESET	The W. BAL switch is in the PRESET position. Move the W. BAL switch to the A or B position.
BARS	The camera is outputting a color bar signal. Move the OUTPUT/DL/DCC+ switch to one of the CAM positions.

Using the Preset White Balance Settings

The camera provides two preset white balance settings, for instant shooting with approximately the correct adjustment. The preset white balance can be selected between 2200 K and 4300 K when the FILTER control is set to 1 and between 4600 K and 12000 K when the FILTER control is set to 2, 3 or 4 (see page 59). There are also particular shooting conditions under which the preset values may give better results than the human eye adjustment.

- Set the W. BAL switch to PRESET.
- Set the FILTER control.

The white balance is automatically adjusted for the preset white balance selected in basic menu page 2 (see page 59).

Light Sources and Color Temperature

Adjustment of the white balance to match the light source is essential to ensure correct color rendering. The color of a light source is indicated as a color temperature, in kelvins (K). It is higher for bluish light, and lower for reddish light. When the camera is shipped it is adjusted for use with video lights (halogen lamps with a color temperature of 3200 K). For use with other light sources, therefore, adjustment is required.

First use the FILTER control to set the approximate color temperature, then carry out white balance adjustment. The following table shows typical color temperature values for different light sources.

Color temperatures of different light sources	
Light source	Color temperature (K)
Natural	Artificial
Clear sky	10,000
Light cloud	8,000
Cloudy or rainy skies	6,000
Direct sunlight, noon	5,000
Fluorescent light (daylight white)	Blue light
Mercury lighting	Fluorescent light (white)
Fluorescent light (warm white)	White light
Studio lighting	4,000
Halogen lamps and video lights	3,500
Incandescent lighting	3,200
Sodium street-lighting	3,000
Candlelight	2,500
Sunrise or sunset	Red light
Sunrise or sunset	2,000

Chapter 5 Adjustments and Settings

Using the ATW (Auto Tracing White Balance) Function

The ATW function continuously adjusts the white balance automatically to adapt to changes in lighting conditions.

Note

Depending on the shooting conditions, automatic adjustment may not necessarily give optimum results. For the best possible results, use the W. BAL switch. To disable the ATW function, press the ATW button again, turning the indicator off.

To use the ATW function

Press the ATW button turning the indicator on. This activates the ATW function, and the ATW indication appears in the viewfinder.

To disable the ATW function, press the ATW button again, turning the indicator off.

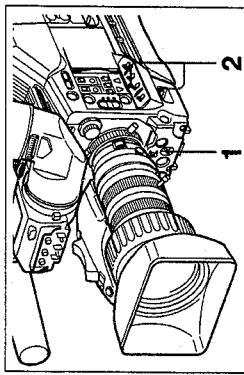
Chapter 5 Adjustments and Settings

White Balance Adjustment

If the ATW function does not operate correctly
A warning message appears in the viewfinder as shown in the table below.

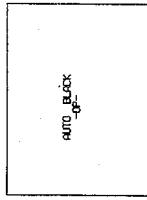
Message	Meaning and corrections to be made
:C TEMP. LOW	If the FILTER control is in position 2, 3 or 4, change it to position 1, then retry the ATW operation.
:C TEMP. HIGH	If the FILTER control is in position 1, change it to position 2, 3 or 4, then retry the ATW operation.

Correct adjustment of the black balance is important for optimum operation of a video camera. It is necessary when using the camera for the first time or after a significant period out of use, and also when there has been a sudden change in temperature. The adjustment value is saved in memory, and readjustment is not normally necessary after powering the camera off or simply when lighting conditions change.



1 Move the POWER switch to the ON/SAVE position, and check that the OUTPUT/DL/DCC+ switch is in one of the CAM positions.

2 Push the WH/TBLK switch in the BLK direction and release.
The lens iris closes, and black balance adjustment is carried out.
During the adjustment the legend "AUTO BLACK -OP." appears in the viewfinder.



After a few seconds the adjustment is complete, and the legend in the viewfinder changes to "AUTO BLACK -OK".

Black Balance Adjustment

Note
When using a camera control unit or remote control unit, if the W/B BALANCE switch of the control unit is set to MANUAL, it is not possible to carry out black balance adjustment on the camera.

If black balance adjustment cannot be completed automatically

The warning message "AUTO BLACK -NG." appears in the viewfinder.

Make the necessary corrections, then carry out the process again.

Warning messages for black balance adjustment.

Message	Meaning and corrections to be made
AUTO BLACK -NG- IRIS NOT CLOSED	The lens iris did not close fully. Check whether the lens cable is connected properly, and whether there is a fault in the lens. If a second attempt to TRY AGAIN carries out the adjustment fails, consult your Sony dealer.
AUTO BLACK -NG- TRY AGAIN BARS	The iris opened during adjustment or there is a hardware error. Close the iris and try again. If this fails, consult your Sony dealer.
AUTO BLACK -NG- TRY AGAIN BARS	The camera is outputting a color bar signal. Move the OUTPUT/DL/DCC+ switch to one of the CAM positions.

Shutter Settings

This section covers the settings for electronic shutter speed, CLS (clear scan) and EVS function. The new value for the shutter speed or clear scan frequency and EVS setting remains set until changed, even when the camera is powered off.

Shutter speeds

There are five shutter speeds from $1/100$ s (DXC-D35/D35WSL) or $1/60$ s (DXC-D35P/D35WSP) to $1/2000$ s. Increasing the shutter speed reduces blurring when shooting a fast-moving subject. It is also possible to reduce flicker when shooting under fluorescent lighting by changing the shutter speed.

CLS (Clear Scan) function

When shooting a computer screen or projected image, horizontal bands may appear in the camera image. This is because the vertical scan frequency of the computer generated image is different from the vertical scan frequency of the video system. The clear scan function allows you to select a vertical scan frequency to reduce this interference.

EVS (Enhanced Vertical Scan)

This function enhances the vertical scan resolution from 400 to 450 lines (or 450 to 530 lines) to reduce flicker. However, this increases the aliasing.

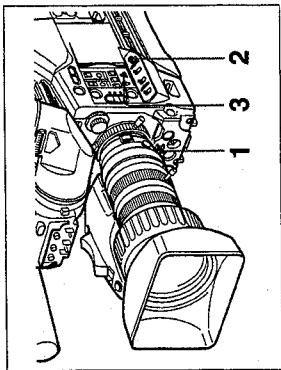
Setting the shutter speed, CLS and EVS function

Notes on setting the shutter speed

- *The faster you make the shutter speed, the darker the image becomes. Check the brightness in the viewfinder, and if necessary increase the lighting level or adjust the iris.
- *When the shutter speed is very fast, shooting a high intensity subject may cause long vertical tails to appear on the highlights (smear).

Note on setting the CLS function

The vertical scan frequencies of computer screens vary, and it may not be possible to eliminate all the interference patterns entirely. Note also that the vertical scan frequency may change depending on the software being run.



When using the clear scan function
Watching the monitor screen, adjust the frequency to give minimum interference.
If there is a black band in the monitor image, reduce the frequency, and if there is a white band, increase the frequency.

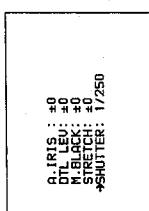
To return from the basic menu to the normal indications

Press the MENU/STATUS switch as many times as necessary until the normal indications appear. The new setting of the shutter speed or clear scan frequency appears in the normal screen display.

When shooting is finished

Set the SHUTTER switch to the OFF position. The SHUTTER indicator in the viewfinder goes off.

- 1 Set the SHUTTER switch to the ON position. The SHUTTER indicator in the viewfinder comes on, and it is now possible to change the shutter speed or clear scan frequency setting and to set the EVS function. (If the EVS is already selected, the SHUTTER indicator will not light.)
- 2 Operate the MENU/STATUS switch to align the cursor with the item "SHUTTER" in basic menu page 1.



- 3 Press the UP/ON button or DOWN/OFF button to select the required shutter speed, scan frequency or EVS.
Each time you press the UP/ON button or DOWN/OFF button, the shutter speed or clear scan frequency setting changes in the following order:

DXC-D35/D35WSL	$1/100 \rightarrow$	$1/125 \rightarrow$	$1/150 \rightarrow$	$1/180 \rightarrow$	$1/200 \rightarrow$	\rightarrow EVS \rightarrow
	(Value when shipped)					
	$1/60$					

DXC-D35P/D35WSP	$200.3\text{Hz} \leftrightarrow$	$80.3\text{Hz} \leftrightarrow$	$DXC-D35/D35WSL$	$201.4\text{Hz} \leftrightarrow$	$80.3\text{Hz} \leftrightarrow$	$DXC-D35P/D35WSP$
-----------------	----------------------------------	---------------------------------	------------------	----------------------------------	---------------------------------	-------------------

Setting the Clock and Timestamping Recordings

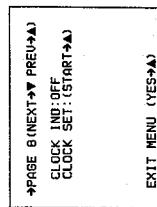
Use advanced menu page 8 to set the camera head's internal clock and record the date and time.

Note

If the following date/time setting procedure for the internal clock does not cause the date/time information to be displayed in advanced menu page 8, it may be due to a worn-out lithium battery in the camera head. See page 23 and replace the lithium battery.

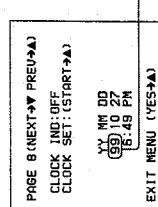
How to set the date and time

- Access advanced menu page 8.
For details of menu operations, see "Advanced Menu Operations" (page 64).



- Move the cursor to CLOCK SET, then press the UP/ON button.

The following display appears, in which the year indication is flashing.



- Press the MENU/STATUS switch and the UP/ON button to set the desired date and time.
- Press the MENU/STATUS switch up or down until the item to be changed starts flashing.
- Press the UP/ON button to change the number.

Repeat 1) and 2) until you have completed your date and time settings.

- Press the UP/ON button (to a time signal).
The clock starts from 00 seconds. The clock display can be viewed if CLOCK IND has been set to ON.

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Timestamping recordings

You can timestamp recordings by superimposing the current date and time.

- Before shooting, set the CLOCK IND to CAM in advanced menu page 8.

The date and time appear in the viewfinder, and are superimposed on the video signal output from the camera.

- To stop superimposing the date and time, set the CLOCK IND to OFF.

- Select whether to display a 12-hour clock (showing AM and PM hours) or a 24-hour clock.

1) Press the MENU/STATUS switch up or down to select the desired setting (12-hour clock display or 24-hour clock display).

Example of 12-hour clock display: 6:49 PM
(“6” and “PM” are flashing)

Example of 24-hour clock display: 18:49 (“18” is flashing)

- Press the UP/ON button.

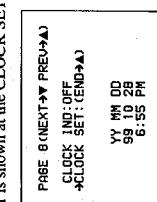
- Press the UP/ON button to select the date display format.

Each press of the UP/ON button cycles through the following options.

- Year-month-day: YY MM DD
99 10 27
- Month-day-year: MM DD YY
10 27 99
- Day-month-year: DD MM YY
27 10 99

- Press the MENU/STATUS switch down.

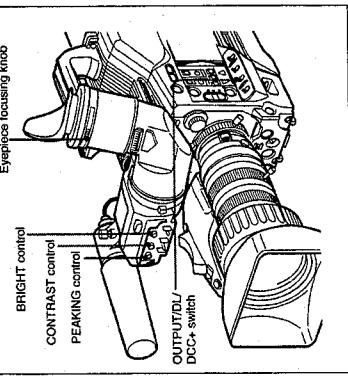
The cursor is shown at the CLOCK SET position.



- Press the UP/ON button (to a time signal).
The clock starts from 00 seconds. The clock display can be viewed if CLOCK IND has been set to ON.

Viewfinder Screen Adjustments

The following adjustments are provided to improve the visibility of the viewfinder screen. Although these adjustment may make the viewfinder image clearer, they have no effect on the output video signal from the camera.



Contrast and brightness adjustment

Carry out these adjustments with the color bars displayed.

- 1 Set the OUTPUT/DL/DCC+ switch to the BARS position. The color bars appear in the viewfinder.
- 2 Watching the color bars, turn the CONTRAST and BRIGHT controls to adjust the contrast and brightness.
- 3 Return the OUTPUT/DL/DCC+ switch to its original position.

Turning the PEAKING control changes the degree of outline emphasis in the viewfinder image, to make focusing easier.

Outline emphasis adjustment

Depending on the eyesight of the camera operator — whether longsighted or shortsighted — the optimal position of the viewfinder image varies. Adjust the eyepiece focus to get the clearest viewfinder image for your eyesight. First focus the image with the lens, then adjust the eyepiece focusing knob. The adjustment range is from -3 to 0 diopters¹⁾ (default when shipped) or 0 diopters.

Using an optional part allows you to modify the adjustment range to -2 to +1 diopters or -0.5 to +3 diopters.

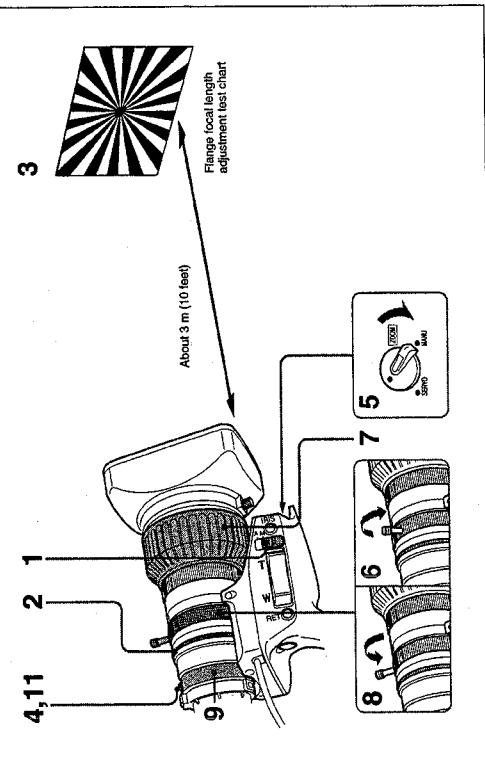
For details, consult your Sony dealer.

Adjusting the Lens

Flange Focal Length Adjustment

It is necessary to adjust the flange focal length (the distance from the lens flange to the plane of the image along the optical axis) in the following cases.

- When a lens is fitted for the first time
- After changing lenses
- When during zoom operations the focus does not match properly from telephoto to wide angle



Chapter 5 Adjustments and Settings

1 Set the iris selector to the M position.

2 Turn the iris ring to f/1.8 (fully open).

3 Place the supplied flange focal length adjustment test chart at a range of about 3 meters (10 feet), and adjust the lighting so that an appropriate video output level is obtained with the iris at f/1.8.

4 Loosen the F.B. fixing screw.

5 Set the ZOOM selector to the MANU. position.

6 Move the manual zoom control to the telephoto position.

7 Turn the focusing ring so that the test chart is in focus.

8 Move the manual zoom control to the wide angle position.

9 Turn the F.B. adjustment ring so that the test chart is in focus. Do not move the focusing ring.

10 Repeat steps 6 to 9 until the image stays in focus from telephoto to wide angle.

11 After adjustment, tighten the F.B. fixing screw.

1) Diopter: A unit to indicate the degree of convergence or divergence of a bundle of rays.

Adjusting the Lens

Iris Adjustments

For more information, refer to the operating instructions for the lens (or consult the lens maker).

Product	Lens number
Fujinon: VCL-916BYA, A16X9 BRM, A12X6.8 BRM	1
Canon: VCL-916BY, YJ16X9B KRS	
Fujinon: A10X4.8 BEVM6BEFD, A15X8 BEVMBERD, A16X8.7 BERM, A19X8.7 BRM	2
Canon: J8Ax5.2B IRS/AS, J15Ax8B IRS/ IAS	
Canon: J21Ax7.9B IRS/AS, YJ18X9B IRS	3
Set up the data with Sony dealer.	4

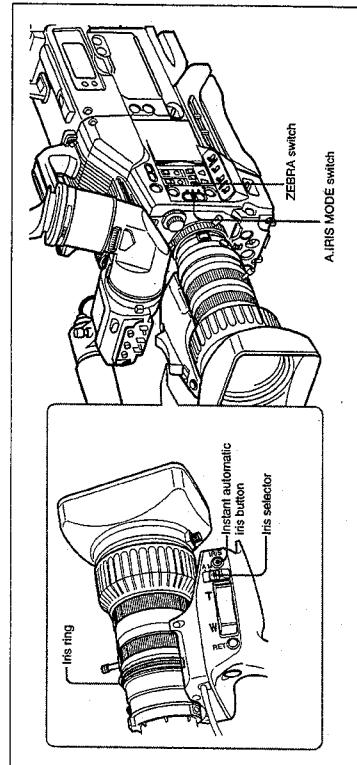
If you use the lens that is not mentioned above, set the lens number as follows:

- When using a lens without an extender, set it to 1.
- When using a lens with an extender, set it to 2.
- When using a lens with a ratio converter, set it to 2.

You can also ask a Sony dealer more precise settings according to your lens. In this case, set it to 4.

To make the image clearer when shooting a subject fit by a spotlight
In the automatic iris adjustment mode, set the A.IRIS MODE switch to SPOT L, turning the indicator on.

There are three ways of adjusting the iris:
automatically, manually, and with the instant automatic iris adjustment function.



Using the zebra pattern in manual adjustment mode

To use the zebra pattern as a guideline for iris adjustment in manual adjustment mode, set the ZEBRA switch to the ON position.
Select the zebra pattern to be displayed in advanced menu page 4 (see page 63).

* When the subject is a person
Adjust the iris manually so that the zebra pattern appears on the highlights of the subject's face.

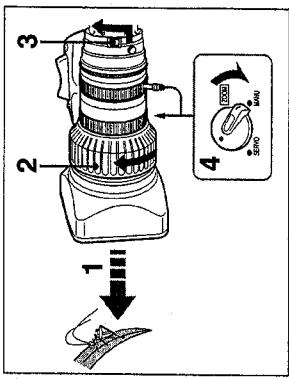
* For other subjects
Adjust the iris manually so that the zebra pattern appears on the most important parts of the subject.

Designating the lens

You have to designate the lens number according to the types of your lens.
If the number is not designated properly, other colors may appear on the upper and lower of the screen when shooting a white subject.
Set the number in advanced menu page 4 (page 65) according to the following table.

Macrophotography

Use the macro function when the subject is less than about 90 cm (3 feet) (for the VCL-916BY) from the front of the lens. It is possible to shoot close-ups down to a range of 10 mm (wide angle, f = 9 mm).



1 Bring the lens up to the subject so that the image is the required size.

2 Move the focusing ring to the closest focus position.

3 Slide the M button toward the rear of the camera, and turn the MACRO ring fully in the direction shown by the arrow.

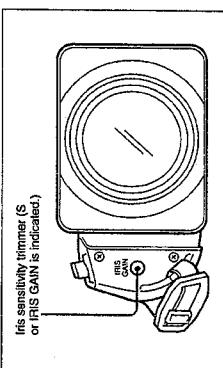
4 Move the ZOOM selector to the MANU. position, and turn the manual zoom control to focus the image.

Ending close-up shooting
Return the MACRO ring to its original position (turn fully in the opposite direction to the arrow in the figure).

Reducing the size of the image

After completing steps 1 to 4 above, if you wish to reduce the size of the image, turn the MACRO ring back slightly, then use the manual zoom control again to focus the image.

You can see the iris sensitivity trimmer when removing the gain cap on the front of the lens driving unit. Use a mini-screwdriver to turn the trimmer. If you turn it clockwise, the sensitivity increases, and if you turn it counter-clockwise, the sensitivity decreases. It is recommended that you confirm the iris sensitivity after replacing the lens.



Settings for Special Cases

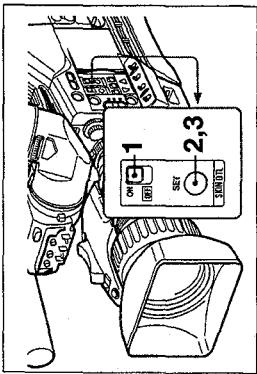
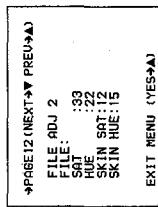
Settings for special cases		
Shooting conditions	Setting	Effect
The background is very bright, and the subject is too dark.	Set the A.IRIS MODE switch to BACK L, turning the indicator on.	This lightens the foreground.
The subject is under a spotlight.	Set the A.IRIS MODE switch to SPOT L, turning the indicator on.	This prevents white burn-out in highlights of faces and clothes.
The subject is completely still (e.g. when shooting documents, drawings, etc.).	Enable the EVS (Enhanced Vertical definition System) function. (See page 84.)	This enhances the vertical resolution.
When you wish to give a lush effect, as when shooting a wedding or similar occasion.	Note Enabling the EVS function tends to increase the occurrence of aliasing problems (more patterns). Therefore, normally leave the function disabled.	
Shooting under fluorescent lighting.	Use the HI SAT file. (Access advanced menu page 10 with the SET UP switch set to FILE.)	This increases the saturation of primary colors.
	Use the FL file. (Access advanced menu page 10 with the SET UP switch set to FILE.)	This eliminates the blue-green cast, and restores natural hues.
When shooting bright areas mixed with dark areas (example: A person indoors looking through a window at a night landscape outdoors)	Set DL to ON in the advanced menu Page 2 and, then set the OUT/FU/IDL/DCC switch to CAM DL.	Prevents white break-up and color faults in bright areas.
When adjusting for skin detail or tone (Example: When shooting to hide skin details)	Sea "Skin Detail Correction" or "Adjusting Color in the Specified Area" (pages 93).	Adjusts the skin detail or tone to a designated active area.
When you wish to give pictures a natural taste created by film camera.	Use the FILMLIKE file. (Access advanced menu page 10 with the SET UP switch, set to FILE.)	The "filmlike" effect is added to the picture.
To make focusing before shooting easier.	Press the EZ FOCUS button, turning the "easy focus" function on.	This opens the iris, to make it easier to focus before beginning shooting.
To begin shooting immediately when there is no time to make adjustments.	Set the EZ MODE switch to the ON position.	This provides automatic adjustment to a set of standard values, to allow immediate shooting.

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Adjusting Color in the Specified Area

You can adjust the specified color using setup files. Perform the same procedure with the skin detail correction to designate the target area.

- 1 Turn the POWER switch on with holding down the UP/ON button.
- 2 Perform steps 1 and 2 in "Changing File Settings" (page 73) and display advanced menu page 12 in the most suitable file for shooting.



- 1 Set the SKIN DTL switch to ON.

The indication "SKIN AREA: ±0" appears in the viewfinder.
2 Press the SKIN DTL SET button.

- 3 This causes the area detect cursor to be shown in the viewfinder (for 10 seconds).
- 4 Place the area detect cursor on the target, then press the SKIN DTL SET button.

This designates the correction area, which is indicated by a zebra pattern, and the indication "SKIN AREA: ±0" appears again. If the area detect cursor disappears before designating the area, press the SKIN DTL SET button again to display the cursor. (Return to step 3.)

- 5 Set the SKIN DTL to 1.0 in basic menu page 2 if the skin detail correction is unnecessary.
- 6 Press the UP/ON or DOWN/OFF button to change the SKIN AREA value (-99 to +99) so that the zebra pattern may be displayed in the target area. Use basic menu page 2 to set the correction level (see page 59).

You can also change color in the designated area (see the following section).

Appendix

Important Notes on Operation

Fitting the zoom lens

It is important to fit the lens correctly, as otherwise damage may result. Be sure to refer to the section "Fitting the Lens" (See page 30).

Do not cover the unit while operating

Putting a cloth, for example, over the unit can cause excessive internal heat build-up.

Operation and storage

Avoid storing or operating the unit in the following conditions.

- In excessive heat or cold (operating temperature range: -10 °C to +45 °C (14 °F to 113 °F))
Remember that in summer, in warm climates, the temperature inside a car with the windows closed can easily exceed 50 °C (122 °F).

- In damp or dusty locations
• Locations subject to violent vibration
• Close to radio or TV transmitters producing strong electromagnetic fields.

Viewfinder

- Do not leave the camera with the eyepiece pointing directly at the sun.
The eyepiece lens can concentrate the sun's rays and melt the interior of the viewfinder.
- Do not use the viewfinder close to strong magnetic fields. This can cause picture distortion.

Shipping

Use the optional LC-421 Carrying Case for optimal shipping. If sending the camera by truck, ship, air or other transportation service, first store it in the carrying case, then pack the carrying case in the supplied carton (or an equivalent).

Care of the unit

Remove dust and dirt from the surfaces of the lenses or optical filters using a blower. If the body of the camera is dirty, clean it with a soft, dry cloth. In extreme cases, use a cloth steeped in a little neutral detergent, then wipe dry. Do not use organic solvents such as alcohol or thinners, as these may cause discoloration or other damage to the finish of the unit.

In the event of operating problems

If you should experience problems with the unit, contact your supplier or Sony service representative.

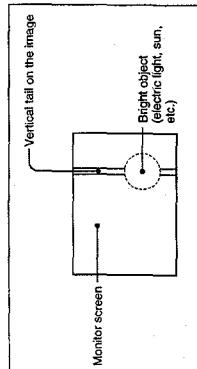
Important Notes on Operation

Characteristics of CCD Sensors

The following effects may appear in the image. They are characteristic of cameras using CCDs (charge-coupled devices), and do not indicate a malfunction.

Vertical smear

When shooting a very bright object, such as a light, the brightness tends to produce vertical tails. This effect is much reduced in this camera.



Vertical smear

When shooting a very bright object, such as a light, the highlight tends to produce vertical tails. This effect is much reduced in this camera.

Warning Indications

If a fault occurs during operation, a warning is given by the REC/TALLY and BATT indicators in the viewfinder and the tally lamp lighting or flashing, and also by warning indications on the viewfinder screen. When you are using a DSR-11/P or PVV-3/3P, the WARNING indicator on the VTR also lights or flashes, and warning indications appear in the display window. There is also a warning tone in the earphone.

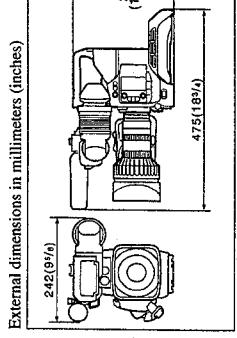
Warning Indicators							What to do
	VTR	Fault	VTR action				
Camera	BATT REC/TALLY indicator and tally lamp	Viewfinder screen indication	WARNING Indicator	Display window	Warning tone	Fault	What to do
	—	—	—	FF (During recording only)	The video heads are dogged there, or some other fault in the recording system.	The VTR emits a warning tone when it detects head dogging.	Carry out head cleaning, referring to the instruction manual for the VTR. If the problem persists after cleaning the heads, disconnect the power and contact your Sony dealer.
	—	—	—	SERVO	The servo lock has been lost.	Recording continues, but the recording may not be satisfactory.	Disconnect the power and consult your Sony dealer. (The SERVO indication may flash momentarily when the tape transport starts, but this does not indicate a problem.)
	—	—	—	HUMID	There is condensation.	Recording continues, but if the tape sticks to the drum, reverse, play-back, or fast forward stops.	Stop the tape transport. Wait until the HUMID indication does not appear when you power the unit on.
	—	—	—	SLACK	The tape is not wound properly.	The operation stops. (Refer to the service or maintenance manual.)	Press the EJECT button to eject the cassette. Close the cassette compartment and check that the top panel has descended before powering on again. Then consult your Sony dealer. (Do not attempt to insert any cassette.)
	—	—	—	TAPE (flashing, during recording only)	The tape is at the end.	Operation continues.	Change the cassette if necessary.
	—	—	—	TAPE (flashing)	—	Recording, playback, and fast forward all stop.	Change the battery when possible.
	—	—	—	BATT 11.0V	BATT (flashing)	The battery is almost exhausted.	Change the battery.
	—	—	—	BATT 10.5V	BATT (flashing)	The battery is exhausted.	Operate continuously.

Appendix

Specifications

DXC-D35/D35P/D35WS/D35WSP Camera Head

Imaging element	Three-chip interline transfer CCD	Horizontal resolution (center)	DXC-D35/D35P: 880 TV lines DXC-D35WS/D35WSP: 830 TV lines (4:3 mode), 800 TV lines (16:9 mode)
Pixel resolution	DXC-D35: 758 (horizontal) × 494 (vertical) DXC-D35P: 752 (horizontal) × 382 (vertical) DXC-D35WS: 980 (horizontal) × 494 (vertical) DXC-D35WSP: 980 (horizontal) × 582 (vertical) mm	Minimum illumination	0.25 lux (at f/1.4, +42 dB) 0.4 lux (at f/1.8, +42 dB) 2000 lux (f/1.1 standard, 3200 K) Selectable -3 dB, 0 dB, 3 dB, 6 dB, 9 dB, 12 dB, 18 dB, 18 dB + DPR, 24 dB, 24 dB + DPR, hyper gain (30 dB + DPR or 36 dB + DPR) Composite signal 1.0 Vp-p, sync negative, 75 Ω, unbalanced Y/C separate signals Y: 1.0 Vp-p, sync negative, unbalanced C: burst level 0.286 Vp-p, no sync
Imaging area	DXC-D35/D35P: 8.8 × 6.6 mm (2.5-inch, 4:3 optical) mm DXC-D35WS/D35WSP: 9.6 × 5.4 mm (9.5-inch, 16:9 optical system)	Video S/N ratio	63 dB (typical) (DXC-D35/D35WS). 61 dB (typical) (DXC-D35P/D35WSP)
Built-in filter settings	1: 3200K 2: 5600K + 1/6ND 3: 5600K 4: 5600K + 1/6ND	Registration	0.05% for all zones, without lens input/output connectors
Lens mount	Bayonet mount	VIDEO OUT connector: BNC, 75 Ω, unbalanced LENS connector: 12-pin, for 7/8-inch lens VF connector (front): 20-pin REMOTE connector 1: Stereo mini-jack MONITOR OUT connector: BNC, 75 Ω, unbalanced	VIDEO OUT connector: BNC, 75 Ω, unbalanced LENS connector: 12-pin, for 7/8-inch lens VF connector (front): 20-pin REMOTE connector 1: Stereo mini-jack MONITOR OUT connector: BNC, 12 V DC
Signal standards	EIA standard signal (NTSC color system) (DXC-D35/D35WS) CCIR standard signal (PAL color system) (DXC-D35P/D35WSP)	Horizontal:	15.734 kHz (DXC-D35P/D35WSP)
Scanning system	525 lines, 2:1 interface (DXC-D35/D35WS) 625 lines, 2:1 interface (DXC-D35P/D35WSP)	Vertical:	15.625 kHz (DXC-D35P/D35WS) Vertical: 59.94 Hz (DXC-D35P/D35WS) 50.00 Hz (DXC-D35P/D35WS)
Scanning frequencies		Power supply	12 V DC
Synchronization	Internal sync, using signal input (VBS or BS) to the GEN LOCK IN connector of an optional camera adaptor or input from the GEN LOCK connector of a camera control unit to the VTR/CCU/CMA connector of an optional camera adaptor.	Power consumption	DXC-D35/D35P: 12 W (12.7 W when the DSR-1/1P is connected) DXC-D35WS/WSP: 14.9 W (15.3 W when the DSR-1/1P is connected)



External dimensions in millimeters (inches)

DXF-801/801CE Viewfinder

Picture tube	1.5-inch monochrome
Indicators	RECTALLY (∞), BATT, SHUTTER, GAIN UP
Resolution	600 TV lines
Power supply	12 V DC
Power consumption	2.1 W
Mass	620 g approx. (1 lb 5 oz)
Maximum external dimensions	241 (W) × 91 (H) × 203 (D) mm (9 1/2 × 3 1/4 × 8 inches)
Scan size	Switchable between 4:3 and 16:9



Appendix

VCL-918BY Zoom Lens

Focal length	9.0 to 162 mm
Zoom	Manual or power, selectable; zoom ratio: ×18
Maximum aperture	f: 1:1.8
Iris	Manual or automatic, selectable; f/1.4 to f/16 (and C (closed))
Subject area (at 0.9 m (3 feet))	1.4 to f/16 and C (closed)
Wide angle	Subject area (at 0.9 m (3 feet))
Mounting	Sony 1/2-inch bayonet mount
Mass	1.3 kg approx. (2 lb 13 oz)
External dimensions	122 × 120 × 219.7 mm (4 7/8 × 4 1/4 × 8 1/2 inches) (with lens hood, without lens grip)

Design and specifications are subject to change without notice.

Supplied accessories

RM-LG1 Remote Control Unit ²⁾ (1)	VCL-918BY Zoom Lens ¹⁾ (1)
DXF-801/801CE Viewfinder ²⁾ (1)	Microphone ²⁾ (1)
	Wind screen ²⁾ (1)
	VCT-U14 Tripod Adaptor ²⁾ (1)
	Lens mount cap (1)
	Flange focal length adjustment test chart (1)
	Operating Instructions (1)

Related Products

Lenses	VCL-915BYA/S16BY/916BYA/918BY Zoom Lens
Camera adapter products	CA-325A/325AP/327/327P/51/512/P ³⁾ /51/3/537/
537P Camera Adapter	CMA-8/A/8ACE AC Adaptor
CA-325A/325AP/327/327P/51/512/P ³⁾ /51/3/537/	RM-M7G Camera Remote Control Unit
	3) When connecting a CA-512/512P, remove the blank panel on the CA-512/512P.

DXC-D35/D35WS(UC)

1) DXC-D35K/D35PK	DXC-D35/D35WS(UC)
2) DXC-D35K/D35L/D35WSDL/D35PK/D35WSPL	approx. (5 lb 8 oz)

Appendix

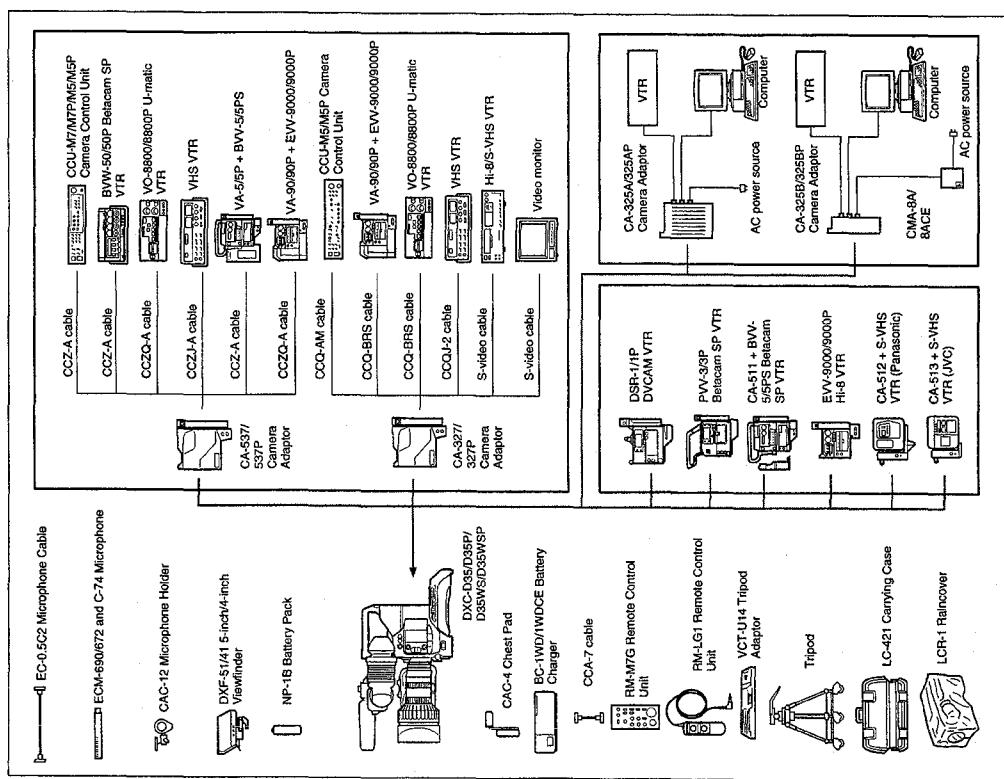
Specifications

Chart of Optional Components and Accessories

VTR products	DSR-1/P Digital Videocassette Recorder EVV-9000/9000P Videocassette Recorder PVV-1/P1A/V1P3/3S Portable Videocassette Recorder VO-5800/8800P Portable Videocassette Recorder BVU-150/150P Portable Videocassette Recorder BVV-5/5PS Videocassette Recorder BVW-50/50P Portable Videocassette Recorder VA-5/P/90/90P VTR Adaptor	CCU-M7/M7P/M5/M5P Camera Control Unit BW-5/5SP Betacam SP VTR VO-8800/8800P U-matic VTR VHS VTR CCZ-A cable CCZ-A cable CCZQ-A cable CCZQ-A cable CCZ-A cable CCZ-A cable CCZ-A cable CCZ-A cable CAC-12 Microphones Holder DXF-S1/41 5-inch/4-inch Viewfinder NP-1B Battery Pack EC-0.5C2 Microphone Cable CAC-12 Microphones Holder DXF-S1/41 5-inch/4-inch Viewfinder NP-1B Battery Pack BP-90/A Battery Pack BC-IWD/IWDCE Battery Charger ECM-670/672 Electret Condenser Microphone C-74 Condenser Microphone CAC-12 Microphone Holder EC-0.5C2 Microphone Cable EC-0.3C2 Microphone Cable CCU-M5/M5P/MSA/M5AP/M7/M7P Camera Control Unit DXF-51 5-inch Viewfinder (monochrome) DXF-41 4-inch Viewfinder (monochrome) DR-100 Intercom Headset
Microphone products	ECM-670/672 Electret Condenser Microphone C-74 Condenser Microphone CAC-12 Microphone Holder EC-0.5C2 Microphone Cable EC-0.3C2 Microphone Cable	PVM-3/3P Betacam SP VTR CA-511-BW-5SP Betacam SP VTR EVV-9000/9000P Hi-8 VTR CA-512-S-VHS VTR (Panasonic) CA-513-S-VHS VTR (NG)
Studio equipment	DXC-D35WS(UC) DXC-D35P(D35WS(CE) V1	CCU-M5/35S/35SP/35SP/35SP/35SP Camera Adapter CAC-4 Chest Pad CCA-7 cable RM-M7G Remote Control Unit RH-LG1 Remote Control Unit VCT-U14 Tripod Adapter Tripod LC-421 Carrying Case LCR-1 Raincover LC-DS300SFT Soft Case
Cables and miscellaneous		CCZQ-A/2/AS/A10/A2/AM CCZQ-1/B/IE Cable Extension Connector Camera cables with Q-type 14-pin connectors CCO-2BRS/5BRS/10BRS CCQ-10AM/25AM/50AM/100AM CCZ-2 Camera Cable with Z-type 26-pin connector and 1-type 10-pin connector LC-421 Carrying Case LCR-1 Rain Cover CAC-4 Chest Pad LC-DS300SFT Soft Case

DXC-D35/D35WS(UC)
DXC-D35P/D35WS(CE) V1

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Appendix

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What Is ClipLink?

The ClipLink™ function greatly improves the efficiency of the video production process as a whole by recording various editing-related data on tape when shooting. As such, ClipLink is a revolutionary function that transcends the conventional separation of shooting and editing.

Note

When an external equipment, such as VCR, is connected to the DV OUT connector, the ClipLink function will not work.

How ClipLink Changes Video Production Techniques

The following describes various ways in which ClipLink™ video production differs from conventional video production.

Recording of ClipLink log data lightens the shooting workload

When you start shooting a scene, ClipLink log data such as the scene number and time code data are automatically recorded into the cassette memory. This eliminates the need for a conventional "shot list" compiled by someone using a stopwatch, clipboard and pencil. You can also designate unwanted scenes as "NG" (no good) and automatically skip all "NG" scenes when editing.

Recorded Index Pictures drastically cut editing time

The ClipLink function also features Index Pictures, a time-saving tool for rough editing. Each Index Picture is a compressed image taken from the start of each scene, which is recorded onto the tape as a still picture. When editing, begin by transferring only the Index Pictures and the ClipLink log data to the EditStation's hard disk. You can also transfer OK scenes only ("NG" scenes are skipped).

Next, begin rough editing by viewing the Index Pictures on the EditStation's GUI display and rearranging them as you wish. This eliminates the difficult work of matching up handwritten shot lists with recorded scenes. After you have completed this rough editing, you can then transfer only the recordings needed for your video program.

High-speed transfer of recordings

It is also possible to transfer the editing material itself between the DSR-35/8SP and ES-7 at four times normal speed. In other words, the transfer can be carried out in one fourth of the real time duration. It is of course possible to carry out a transfer at four times normal speed when backing up video and audio data recorded on the disk drive to the DSR-35/8SP, or in the opposite direction when loading data backed up on the DSR-35/8SP to the disk drive. Thus the time required is much shorter than with conventional equipment (for which, for example, transferring a 40-minute segment of video takes 40 minutes).

Note

When using a tape recorded by a DV/CAM camcorder to transfer digital (video/audio/time code) signals at four times normal speed from the DSR-35/8SP Digital Videocassette Recorder to the ES-7 EditStation for editing purposes, there must be about at least 40 seconds of recording on the tape before the IN point.

To perform editing without problems, it is recommended that you pre-record at least 40 seconds of color bar signals at the beginning of the tape.

The ClipLink function also features Index Pictures, a time-saving tool for rough editing. Each Index Picture is a compressed image taken from the start of each scene, which is recorded onto the tape as a still picture. When editing, begin by transferring only the Index Pictures and the ClipLink log data to the EditStation's hard disk. You can also transfer OK scenes only ("NG" scenes are skipped).

Note

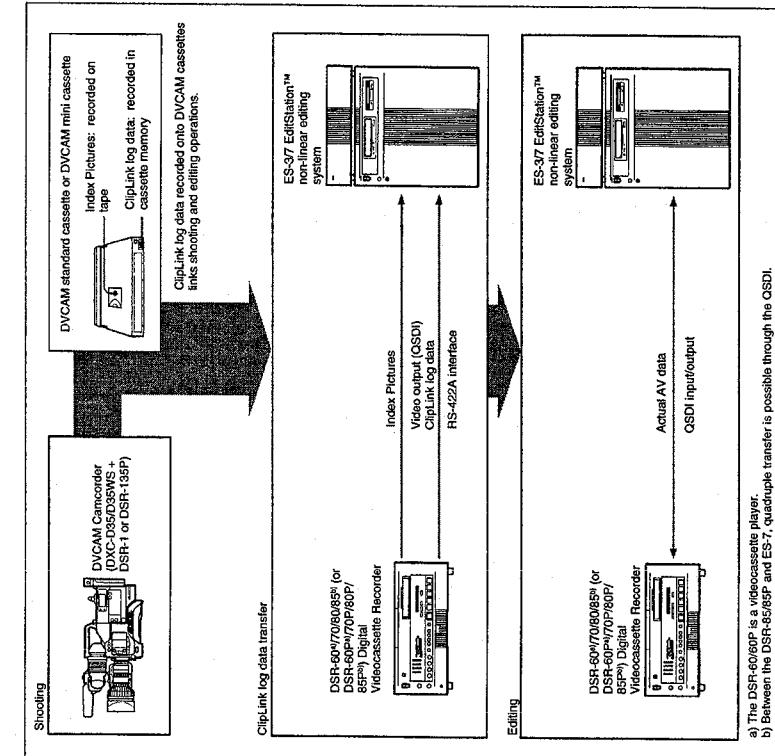
1) The ClipLink system is a video production system which uses the cassette memory function.
2) The DSR-Recorder is a videocassette player.
3) Between the DSR-35/8SP and ES-7, quick tape transfer is possible through the QSDI.

ClipLink Operation Flow

The following is a detailed description of how to use the ClipLink function during the video production process.

Example System Configuration

The following illustration shows the optimum system configuration for using the ClipLink function. ClipLink operation is possible even with a system containing existing analog equipment. However, note that a part of functions are disabled.



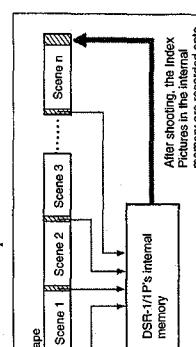
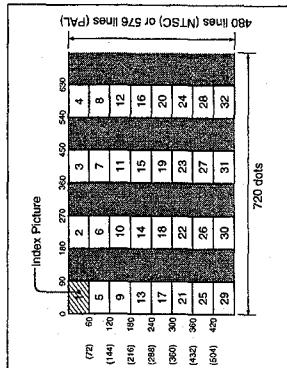
ClipLink Operation Flow

Data Generated When Shooting

The following describes the kinds of data that is generated when using the ClipLink function.

Index Pictures

When shooting, a single-frame image from the Mark IN point at the start of each scene is recorded as a still picture into the DSR-11/P's internal memory. These images are called "Index Pictures". When you finish shooting, the Index Pictures from all scenes are recorded onto the tape after the last scene.



Up to 32 Index Pictures can be recorded onto the tape space normally occupied by one frame, as shown below.

ClipLink log data

ClipLink log data can be recorded automatically or manually into the cassette memory for use as a convenient alternative to the conventional "shot list".

ClipLink log data includes the following items.

ClipLink log data	Description
Reel number (cassette number)	Data (maximum length: 8 digits), consisting of alphanumeric characters and/or symbols (This is left blank at shipping.)
Scene number	A three-digit number from 001 to 198 (starts at 001 and is automatically incremented with each scene).
Take number	This cannot be changed (set to "1" at shipping).
OKNG	Indicates the OKNG status of a particular scene. (In the OK case, nothing is recorded.)
Mark IN/OUT point time codes	These are the time codes that indicate the Mark IN and Mark OUT points (or each frame digit). These time codes are recorded when the camcorder has been set to Mark mode. The frame digit is incremented at each Mark IN point and is decremented at each Mark OUT point. (For details, see "Time codes recorded for Mark IN/OUT points" on page 108.)
Cue point time code	This is the time code that indicates the cue points (valid up to the frame digit). This time code is recorded when the camcorder has been set to Cue mode. When in this mode, the time codes at the start and end of a recording (the Rec IN and Rec OUT time codes) are automatically recorded as Mark IN/OUT points.

Appendix

How to record ClipLink log data

The following describes how to record the various ClipLink log data items.

Index Pictures

To designate a scene as "NG", press the NG button on the camcorder while shooting the scene or at any time before you begin shooting the next scene.

All scenes that do not receive an "NG" designation are recorded as "OK" scenes.
(When you exit the VCR recording mode, changing the OK/NG status is no longer possible.)

Mark IN/OUT points time codes

This data is especially useful when shooting a video program for which a scenario has been created. Set the camcorder to Mark mode before you start shooting. While shooting, each time you press the camcorder's TAKE button, Mark IN and Mark OUT time codes are recorded alternately.

Seven frame spaces are reserved at the end of the last scene as a recording area for Index Pictures. (A cassette with 16 Kbytes of cassette memory can record up to 198 Index Pictures, and a cassette with 4 Kbytes of cassette memory can record up to 45 Index Pictures.)

ClipLink log data

ClipLink log data can be recorded automatically or manually into the cassette memory for use as a convenient alternative to the conventional "shot list".

ClipLink log data includes the following items.

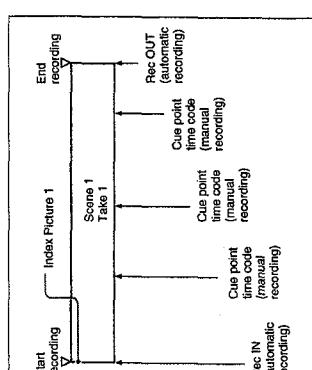
ClipLink log data	Description
Reel number (cassette number)	Data (maximum length: 8 digits), consisting of alphanumeric characters and/or symbols (This is left blank at shipping.)
Scene number	A three-digit number from 001 to 198 (starts at 001 and is automatically incremented with each scene).
Take number	This cannot be changed (set to "1" at shipping).
OKNG	Indicates the OKNG status of a particular scene. (In the OK case, nothing is recorded.)
Mark IN/OUT point time codes	These are the time codes that indicate the Mark IN and Mark OUT points (or each frame digit). These time codes are recorded when the camcorder has been set to Mark mode. The frame digit is incremented at each Mark IN point and is decremented at each Mark OUT point. (For details, see "Time codes recorded for Mark IN/OUT points" on page 108.)
Cue point time code	This is the time code that indicates the cue points (valid up to the frame digit). This time code is recorded when the camcorder has been set to Cue mode. When in this mode, the time codes at the start and end of a recording (the Rec IN and Rec OUT time codes) are automatically recorded as Mark IN/OUT points.

Appendix

Cue point time codes

This type of data is especially useful when shooting scenes that may contain unexpected events, such as when shooting for sports coverage or documentaries.

Set the camcorder to Cue mode before you start to record. While recording, each time you press the camera's TAKE button, the current time code is recorded as a cue point time code.



ClipLink log data includes the following items.

ClipLink log data	Description
Reel number (cassette number)	Data (maximum length: 8 digits), consisting of alphanumeric characters and/or symbols (This is left blank at shipping.)
Scene number	A three-digit number from 001 to 198 (starts at 001 and is automatically incremented with each scene).
Take number	This cannot be changed (set to "1" at shipping).
OKNG	Indicates the OKNG status of a particular scene. (In the OK case, nothing is recorded.)
Mark IN/OUT point time codes	These are the time codes that indicate the Mark IN and Mark OUT points (or each frame digit). These time codes are recorded when the camcorder has been set to Mark mode. The frame digit is incremented at each Mark IN point and is decremented at each Mark OUT point. (For details, see "Time codes recorded for Mark IN/OUT points" on page 108.)
Cue point time code	This is the time code that indicates the cue points (valid up to the frame digit). This time code is recorded when the camcorder has been set to Cue mode. When in this mode, the time codes at the start and end of a recording (the Rec IN and Rec OUT time codes) are automatically recorded as Mark IN/OUT points.

Appendix

OKNG status

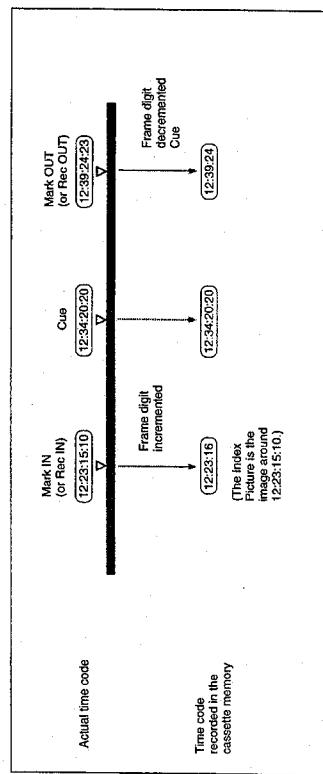
To designate a scene as "NG", press the NG button on the camcorder while shooting the scene or at any time before you begin shooting the next scene.

All scenes that do not receive an "NG" designation are recorded as "OK" scenes.
(When you exit the VCR recording mode, changing the OK/NG status is no longer possible.)

Mark IN/

Time codes recorded for Mark IN/OUT points

There is a gap between actual time codes and Mark IN/OUT time codes recorded in the cassette memory, as shown in the figure below. The frame digit is incremented at each Mark IN point and is decremented at each Mark OUT point.

**Recording capacity for Mark IN/OUT time codes and Cue point time codes**

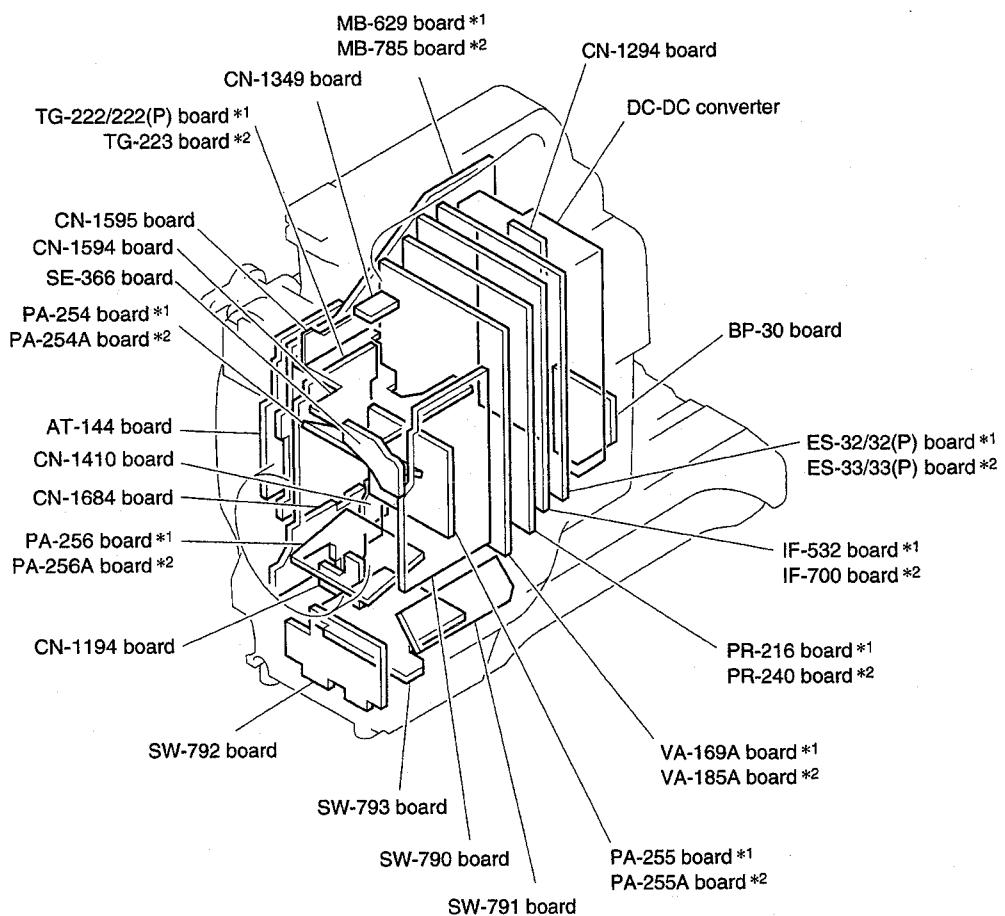
When in Mark mode, up to 198 pairs of Mark IN and Mark OUT points can be recorded (if using a cassette with 16 Kbytes of cassette memory). When in Cue mode, up to 396 time codes points (including all cue point time codes and all Mark (Rec) IN and Mark (Rec) OUT time codes) can be recorded (if using a cassette with 16 Kbytes of cassette memory).



Section 2

Service Overview

2-1. Board Layout



*1 : DXC-D35/D35P

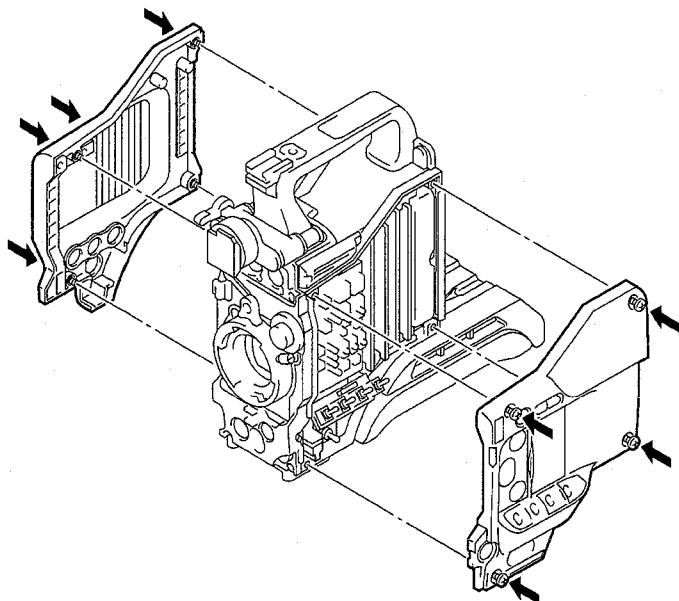
*2 : DXC-D35WS/D35WSP

2-2. Removal/Attachment of Cabinet

2-2. Removal/Attachment of Cabinet

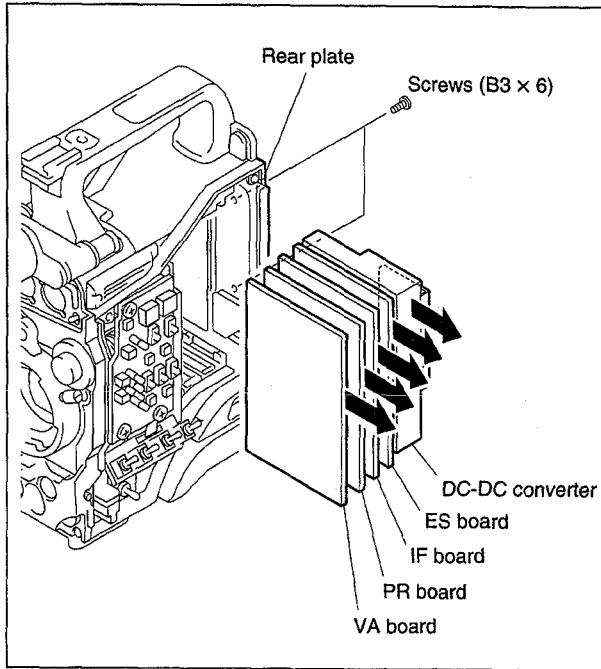
2-2-1. Removal of Side Plate

Slacken the eight screws as shown in the figure and remove the right and left side plates.

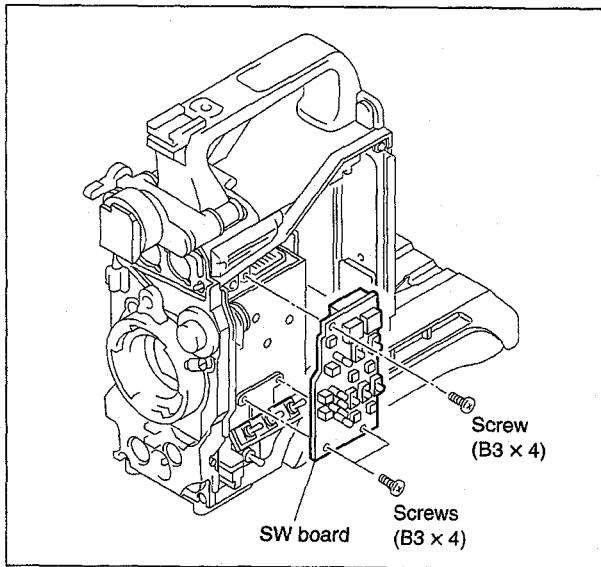


2-2-2. Removal/Attachment of Top Chassis

1. Remove the right and left side plates. (Refer to Section 2-2-1.)
2. Remove the two screws of the rear plate to remove the DC/DC converter.
3. Remove the VA, PR, IF and ES boards.



4. Remove the three screws and take off the SW board in the horizontal direction.

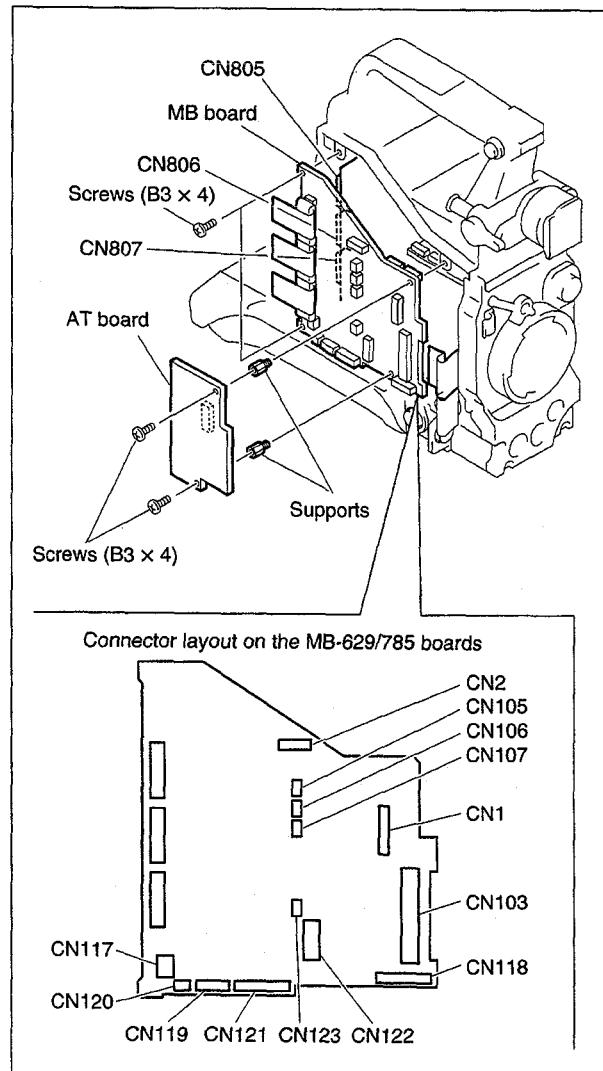


5. Remove the two screws and take off the AT board in the horizontal direction.
6. Disconnect the four flexible card wires from the three connectors (CN805, CN806 and CN807) on the CN board and from the connector (CN103) on the MB board.

Note

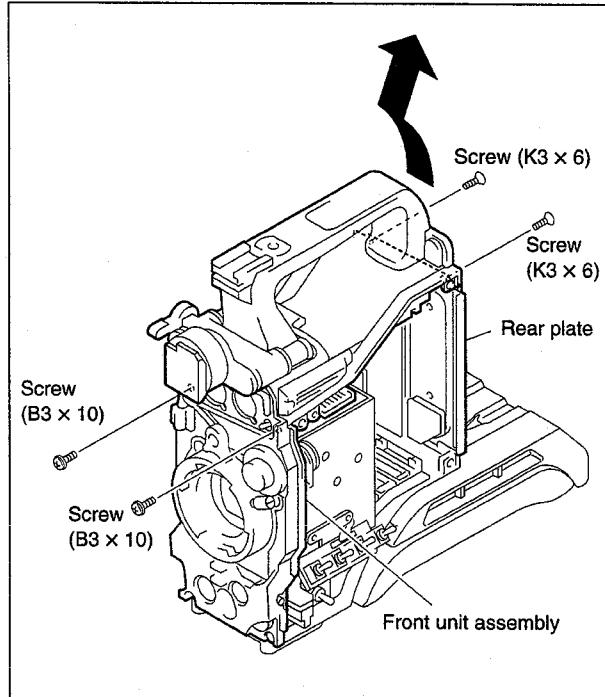
When disconnecting flexible card wires, refer to Section 2-11.

7. Disconnect the eleven harness connectors from the connectors on the MB board (CN2, CN105, CN106, CN107, CN117, CN118, CN119, CN120, CN121, CN122 and CN123).
8. Remove the two screws and two supports on the MB board and take off the MB board in the horizontal direction.



2-2. Removal/Attachment of Cabinet

9. Remove the two screws of the front unit assembly shown in the figure and the two screws of the rear plate, and then remove the top chassis.



10. To reattach, perform in the reverse order of steps 1 to 9.

Notes

- Be sure to route the harnesses as shown in the figure when reattaching the MB board.
- When reinstalling the VA, PR, IF and ES boards, use care to insert securely the connectors on each board to the connectors of the MB board as far as they will go.
- When reconnecting the flexible card wires, refer to Section 2-11.

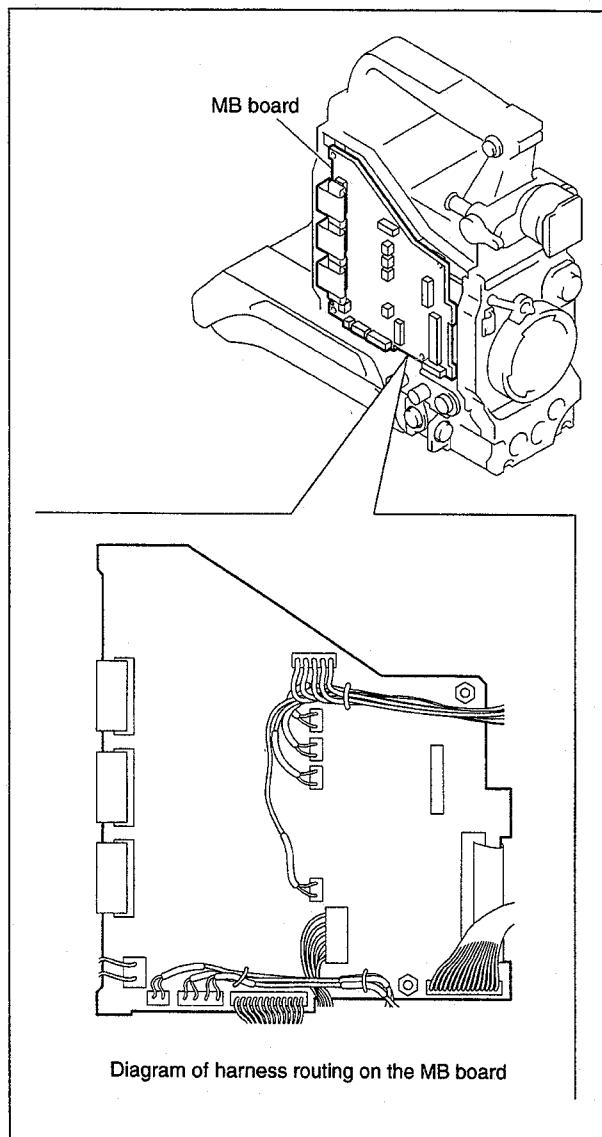


Diagram of harness routing on the MB board

2-3. Replacement of CCD Unit

Description on CCD Block Number

Every CCD unit has its own ID number called CCD block number. It shows the CCD block type and serial number for the CCD block.

The CCD block number label is put in the CCD unit.

GUA xxxx : DXC-D35 (NTSC)

GVA xxxx : DXC-D35P (PAL)

HDA xxxx : DXC-D35WS (NTSC)

HEA xxxx : DXC-D35WSP (PAL)

Serial number for the CCD unit
CCD block type

1. Remove the lens and viewfinder. (Refer to the instruction manual.)

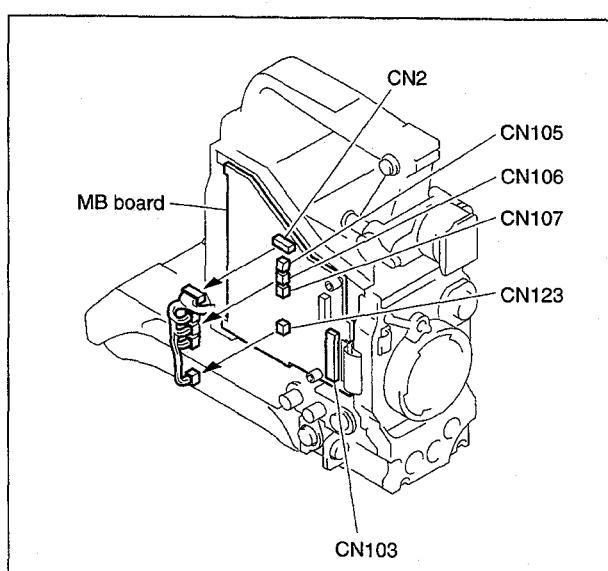
Note

To protect the prism block, be sure to cover the lens mount portion with the mount cap.

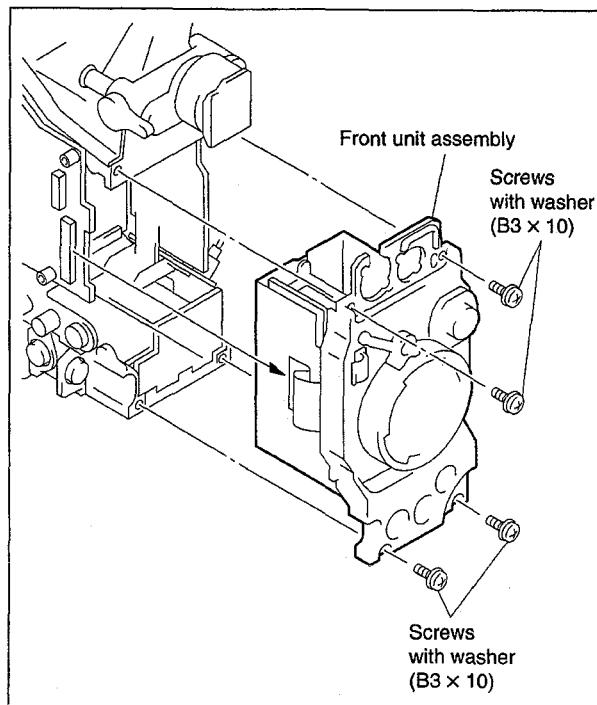
2. Remove the left side plate. (Refer to Section 2-2-1.)
3. Remove the AT board. (Refer to Section 2-2-2.)
4. Disconnect the harness connectors from the four connectors (CN2, CN105, CN106 and CN107) and the flexible card wire from the connector (CN103) on the MB board.

Note

When disconnecting the flexible card wire, refer to Section 2-11.



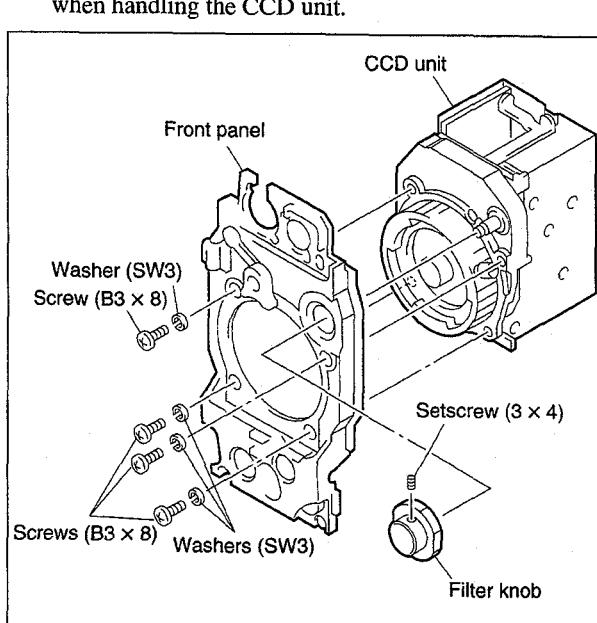
5. Remove the four screws to remove the front unit assembly.



6. Remove the setscrew shown in the figure and take off the filter knob.
7. Remove the four screws and four washers of the front panel to remove the CCD unit.

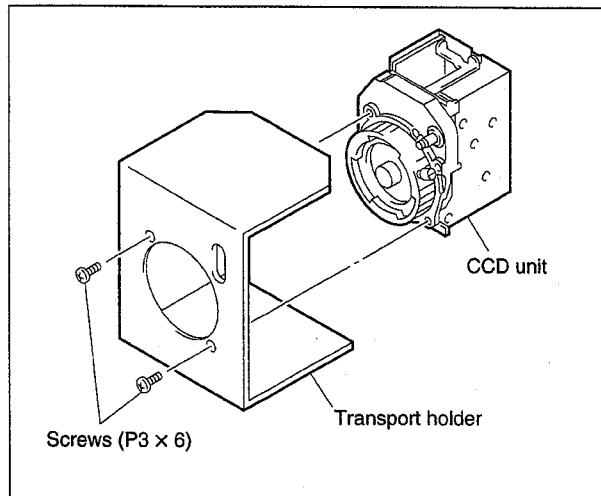
Note

Use great care to avoid any pressure on the PA board when handling the CCD unit.



2-3. Replacement of CCD Unit

8. Take a new CCD unit out of a transport holder and install it to the unit in the reverse order of steps 1 to 7.



9. Perform the pedestal alignment (in Section 3-3-12), the shading alignment (in Section 3-3-13) and the flare alignment (in Section 3-3-14).

Notes

- Before performing alignment, be sure to read each item in Section 3-1-4 “Note on Alignment”.
- Reuse the transport holder to transport the CCD unit removed from the unit.

2-4. Connectores and Cables

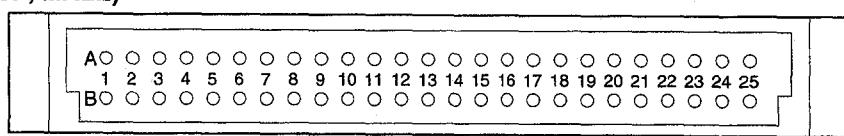
2-4-1. Connector Input/Output Signals

The main connector input/output signals are as follows:

MONITOR OUT (BNC) ; 1.0 V p-p ± 0.1 V, sync negative 75Ω

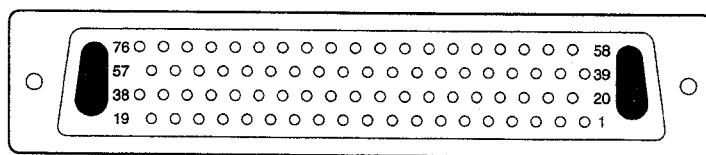
VIDEO OUT (BNC) ; 1.0 V p-p ± 0.1 V, sync negative 75Ω

CAMERA/CA (50P, MALE)



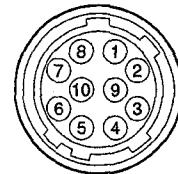
(EXTERNAL VIEW)

No.	Signal	I/O	Specifications	No.	Signal	I/O	Specifications
A1	MODE ID	IN	OPEN : COMP, GND : R/G/B	A15	Y (G)	—	1.0 V p-p, SYNC NEGATIVE
B1	GND (CHASSIS)	—		B15	Y (X)	OUT	$Z_o \leq 75 \Omega \pm 5\%$
A2	MIC (Y)	OUT	-60 dBm	A16	COMP (CA) GND	—	R/G/B
B2	MIC (X)	OUT		B16	R/R-Y (CA)	OUT	1.4 V p-p, POSITIVE
A3	MIC (G)	—		A17	G/Y (CA)	OUT	$Z_o \leq 75 \Omega \pm 5\%$
B3	EAR (G)	—		B17	B/B-Y (CA)	OUT	COMPONENT OUT*
A4	REC TALLY IND	IN	$Z_i \geq 600 \Omega$	A18	BATT ALARM/S. DATA		
B4	EAR (X)	IN	-6 dBu	B18	REC REVIEW CONT	OUT	GND ; REC REVIEW
A5	VTR TRIG	OUT		A19	(SPARE)		
B5	REC RESET	IN		B19	(SPARE)		
A6	S.D (V/C)	IN	H: 5 V	A20	+8.5 V	OUT	8.3 V to 9.1 V
B6	S.D (V/C)	OUT	L: 0 ± 0.5 V	B20	+5 V	OUT	5 V ± 0.1 V
A7	CS VTR	IN	$Z_i \geq 47 k\Omega$	A21	-5 V	OUT	-5 V ± 0.1 V
B7	SCL VTR	IN	$Z_o \leq 1 k\Omega$	B21	AGND	—	REG, GND
A8	GENLOCK VIDEO (G)	—	VBS : 1.0 V p-p	A22	POWER EXT DC	IN	10.6 V to 17.0 V dc
B8	GENLOCK VIDEO (X)	IN	$Z_i \geq 1 k\Omega$	B22	POWER EXT DC	IN	
A9	SYNC (G)	—	H : 4.0 to 5.5 V p-p : NEGATIVE	A23	POWER EXT DC GND	—	GND for EXT DC
B9	SYNC (X)	OUT	L : 0 ± 0.4 V dc $Z_o \geq 2 k\Omega$	B23	POWER EXT DC GND	—	
A10	PB RET VIDEO (G)	—	1.0 V p-p	A24	(SPARE)		
B10	PB RET VIDEO (X)	IN	$Z_i \geq 10 k\Omega$	A25	GND (CHASSIS)	—	CHASSIS GND
A11	CF/V RESET	I/O	H : 4.0 to 5.5 V p-p $Z_o \leq 2 k\Omega$ L : 0 ± 0.4 V dc	B25	GND (CHASSIS)	—	
B11	VF VIDEO CONT	IN	CAM : OPEN $Z_i \geq 1 k\Omega$, PB : 0 V				
A12	VBS (CA) (G)	—	1.0 V p-p, SYNC NEGATIVE				
B12	VBS (CA) (X)	OUT	$Z_o = 75 \Omega \pm 5\%$				
A13	STBY/SAVE	OUT	STBY : 4.0 to 5.5 V p-p $Z_o \leq 100 \Omega$ SAVE : 0 ± 0.25 V				
B13	VTR/CCU CONT	OUT	VTR : 0 ± 0.25 V $Z_o \leq 1 k\Omega$ CCU : 5.0 ± 0.5 V				
A14	CHROMA (G)	—	NTSC : 0.286 V p-p $\pm 10\%$				
B14	CHROMA (X)	OUT	PAL : 0.300 V p-p $\pm 10\%$ $Z_o \leq 75 \pm 5\%$				

CAMERA/CA (76P, MALE)

(EXTERNAL VIEW)

No.	Signal	I/O	Specifications	No.	Signal	I/O	Specifications
1	REC TALLY	IN	$Z_i \geq 600 \Omega$	27	VBS (CA) (X)	OUT	1.0 V p-p, SYNC NEGATIVE $Z_o = 75 \Omega \pm 5\%$
2	S.D. (V/C)	IN	H : 5 V L : 0 ± 0.5 V	28	C (G)	-	GND for C (X)
3	SCL VTR	IN	$Z_i \geq 47 k\Omega$ $Z_o \leq 1 k\Omega$	29	Y (G)	-	GND for Y (X)
4	GENLOCK (G)	-	GND for GENLOCK (X)	30	COMP GND	-	GND for G/Y (CA)
5	SYNC (G)	-	GND for SYNC (X)	31	G/Y (CA)	OUT	R/G/B 1.4 V p-p, POSITIVE $Z_o \leq 75 \Omega \pm 5\%$ COMPONENT OUT*1
6	PB (G)	-	GND for PB (VBS) (X)	32	BATT S.DATA	IN	
7	PB (Y) (X)	IN	1.0 V p-p, NEGATIVE, $Z_i \geq 1 k\Omega$	33	+9.0 V	OUT	8.3 V to 9.1 V
8	VBS (CA) (G)	-	GND for VBS (CA) (X)	34	-5.0 V	OUT	-5 V ± 0.1 V
9	VTR/CCU	OUT	VTR : 0 ± 0.25 V, $Z_o \leq 1 k\Omega$ CCU : 5.0 ± 0.5 V	35	EXT DC	IN	10.6 V to 17.0 V dc
10	C (X)	OUT	NTSC : 0.286 V p-p ± 10 % PAL : 0.300 V p-p ± 10 % $Z_o \leq 75 \Omega \pm 5\%$	36	EXT DC GND	-	GND for EXT DC
11	Y (X)	OUT	1.0 V p-p, SYNC NEGATIVE $Z_o \leq 75 \Omega \pm 5\%$	37	DCF	OUT	
12	R/R-Y (CA)	OUT	R/G/B 1.4 V p-p, POSITIVE	38	DCLK GND	-	
13	B/B-Y (CA)	OUT	$Z_o \leq 75 \Omega \pm 5\%$ COMPONENT OUT*1	39	MODE ID	IN	OPEN : COMP, GND : R/G/B
14	SKIN GATE	OUT	Gate area (H : 4 to 5.5 V dc) Non gate area (L : 0 ± 0.2 V dc)	40	MIC1 (G)	-	
15	+5.0V	OUT	5 V ± 0.1 V	41	AUDIO LEV	OUT	H : 4 to 5.5 V dc L : 0 ± 0.2 V dc, 1 kΩ
16	AGND	-	REG, GND	42	(SPARE)		
17	EXT DC	IN	10.6 V to 17.0 V dc	43	DIGI/ANA	IN	H : Analog L : Digital
18	EXT DC GND	-	GND for EXT DC	44	(SPARE)		
19	DCLK (X)	OUT		45	(SPARE)		
20	VTR TRIG	OUT		46	(SPARE)		
21	S.D. (C/V)	OUT	H : 5 V L : 0 ± 0.5 V	47	(SPARE)		
22	CS VTR	IN	$Z_i \geq 47 k\Omega$ $Z_o \leq 1 k\Omega$	48	(SPARE)		
23	GENLOCK (X)	IN	VBS : 1.0 V p-p $Z_i \geq 1 k\Omega$	49	(SPARE)		
24	SYNC (X)	IN	H : 4.0 to 5.5 V p-p : NEGATIVE L : 0 ± 0.4 V dc $Z_o \leq 2 k\Omega$	50	(SPARE)		
25	PB (VBS) (X)	IN	1.0 V p-p, SYNC NEGATIVE $Z_o \leq 75 \Omega \pm 5\%$	51	(SPARE)		
26	CF/V RESET	I/O	H : 4.0 to 5.5 V p-p, $Z_o \leq 2 k\Omega$ L : 0 ± 0.4 V dc	52	DCLK GND	-	GND for DCLK (X)
				53	BYRY (0)	OUT	H : 3 ± 0.2 V dc
				54	BYRY (2)	OUT	L : 0 ± 0.2 V dc
				55	BYRY (4)	OUT	
				56	BYRY (6)	OUT	
				57	BYRY (8)	OUT	
				58	MIC1 (X)	OUT	-20 dBm, $Z_o \leq 100 \Omega$
				59	MIC1 (Y)	OUT	

REMOTE (10P, FEMALE)

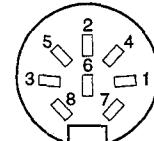
No.	Signal	I/O	Specifications
60	(SPARE)		
61	(SPARE)		
62	76P ID		
63	(SPARE)		
64	(SPARE)		
65	(SPARE)		
66	(SPARE)		
67	(SPARE)		
68	(SPARE)		
69	(SPARE)		
70	(SPARE)		
71	(SPARE)		
72	BYRY (1)	OUT	H: 3 ± 0.2 V dc
73	BYRY (3)	OUT	L: 0 ± 0.2 V dc
74	BYRY (5)	OUT	
75	BYRY (7)	OUT	
76	BYRY (9)	OUT	

*1

UC	CE
Y 0.714 V p-p	0.700 V p-p
R-Y 0.756 V p-p	0.525 V p-p
B-Y 0.756 V p-p	0.525 V p-p

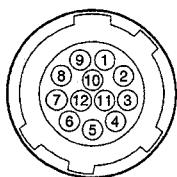
(EXTERNAL VIEW)

No.	Signal	I/O	Specifications
1	(SPARE)		
2	VBS (RM)	OUT	1.0 V p-p, SYNC NEGATIVE
3	VBS (RM)	OUT	
4	RS232C (C/RM)	IN	
5	VTR START/STOP	IN	$Z_i \geq 10 \text{ k}\Omega$ OPEN (4.5 ± 0.5 V) 0 ± 0.5 V
6	S. DATA (X)		0 to 5 V $Z_i \geq 10 \text{ k}\Omega$
7	RS232C (RM/C)	OUT	GND for S. DATA
8	REC TALLY IND	OUT	$Z_o \leq 600 \Omega$
9	POWER EXT DC GND	-	GND for EXT DC
10	POWER EXT DC	OUT	10.6 V to 17.0 V dc

VF (8P, FEMALE)

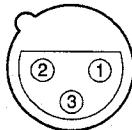
(WIRING SIDE)

No.	Signal	I/O	Specifications
1	POWER EXT DC GND	-	GND for EXT DC
2	REC TALLY IND	OUT	$Z_o \leq 1.1 \text{ k}\Omega$
3	SHUTTER IND	OUT	$Z_o \leq 1.1 \text{ k}\Omega$
4	VF VIDEO (G)	OUT	GND for VF VIDEO
5	BATT IND	OUT	$Z_o \leq 1.1 \text{ k}\Omega$
6	VF VIDEO (X)	OUT	$V = 1$ V p-p
7	POWER EXT DC	OUT	10.6 V to 17.0 V dc
8	GAIN UP IND	OUT	$Z_o \leq 1.1 \text{ k}\Omega$

LENS (12P, FEMALE)

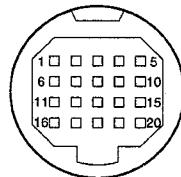
(EXTERNAL VIEW)

No.	Signal	I/O	Specifications
1	RET SW	IN	ON : 0 ± 0.5 V dc
2	VTR START/STOP	IN	TRIG : 0 ± 0.5 V
3	POWER EXT DC GND	-	GND for EXT DC
4	COMPULSORY AUTO IRIS CONT	OUT	AUTO : 4.5 ± 0.5 V MANU : $0 +0.5$ V or OPEN
5	IRIS CONT	OUT	F16 : 3.4 V dc F2.8 : 6.2 V dc
6	POWER EXT DC	OUT	10.6 V to 17.0 V dc
7	IRIS POSI	IN	F16 : 3.4 ± 0.1 V dc F2.8 : 6.2 ± 0.1 V dc
8	REMOTE/LOCAL	OUT	REMOTE : 5 V LOCAL : 0 V
9	EXTND ON/OFF	IN	
10	ZOOM POSI	IN	
11	(SPARE)		
12	(SPARE)		

MIC (3P, FEMALE)

(EXTERNAL VIEW)

No.	Signal	I/O	Specifications
1	MIC (G)	IN	GND for MIC
2	MIC (X)	IN	-60 dB
3	MIC (Y)	IN	BALANCED (0 dB = 0.775 V)

VF (20P, FEMALE)

(EXTERNAL VIEW)

No.	Signal	I/O	Specifications
1	PEAKING CONT	IN	$Z_i \geq 5$ kΩ
2	POWER EXT DC	OUT	10.5 V to 17.0 V dc, 2 A
3	REC TALLY IND	OUT	$Z_o \leq 500$ Ω
4	BATT IND	OUT	$Z_o \leq 1.1$ kΩ
5	ZEBRA SW	IN	ON : 0 ± 0.5 V
6	VF VIDEO (X)	OUT	$V = 1.0$ V p-p
7	POWER EXT DC	OUT	10.5 V to 17.0 V dc, 2 A
8	(SPARE)		
9	(SPARE)		
10	SDA (VF)	OUT	$Z_o \leq 500$ Ω, 5 V p-p
11	VF VIDEO (G)	OUT	GND for VF VIDEO
12	EXT DC GND	-	GND for EXIT DC
13	(SPARE)		
14	DISPLAY SW	IN	ON : 4.5 ± 0.5 or OPEN OFF : $0 +0.5$ V
15	SCL (VF)	OUT	$Z_o \leq 500$ Ω, 5 V p-p
16	R-Y (VF)	OUT	$V = 830$ mV
17	EXT DC GND	-	GND for EXIT DC
18	B-Y (VF)	OUT	$V = 830$ mV
19	SYNC (VF)	OUT	$V = 5$ V p-p
20	LD (VF)	OUT	$Z_o \leq 500$ Ω, 5 V p-p

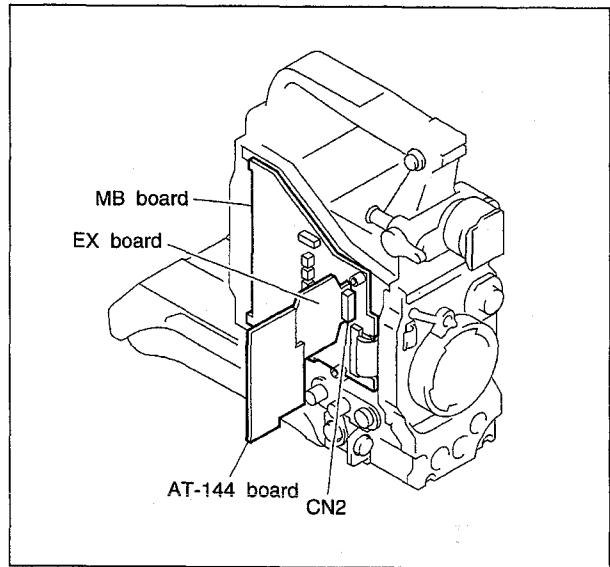
2-4-2. Connection Connector

Connections made with the connector panels during installation or service, should be made with the connectors or complete cable assemblies specified in the following list, or equivalent parts.

Connector Name	Parts No. and name of connector with cable
REMOTE (10P, FEMALE)	1-506-522-11 CONNECTOR, ROUND 10P, MALE HIROSE HR 10A-10P-10P equality or CCA-7-20.Cable assembly (optional)
VIDEO OUT (BNC)	1-560-661-11 PLUG, BNC
MONITOR OUT (BNC)	1-560-661-11 PLUG, BNC
VF (8P, FEMALE)	9-994-797-01 CABLE, VF
LENS (12P, FEMALE)	1-564-360-11 CONNECTOR, 12P, MALE HIROSE HR 10-10PA-12P equality
MIC (3P, FEMALE)	1-508-084-31 CONNECTOR, 3P, MALE CANNON XLA-3-12C equality
VF (20P, FEMALE)	1-778-661-11 CONNECTOR, 20P, MALE HIROSE HR 12-14PA-20PC equality

2-5. How to Attach of the Extension Board EX-591

When using the extension board EX-591, attach as follows.

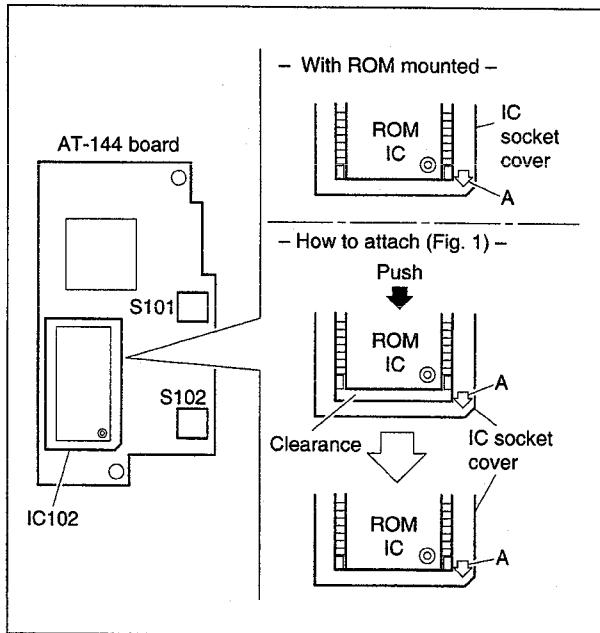


2-6. Replacement Way of ROM (IC102)

Note

Perform "RESET" of PAGE 1 in the SERVICE menu after replacing a ROM.

1. Slide the IC socket cover in the arrow A direction until it clicks and remove the IC socket cover.
2. Replace a new ROM (IC102).
3. Place the IC socket cover with a clearance at the arrow A side. (Refer to Fig.1)
4. For attachment, press the IC socket cover in the reverse direction of arrow A until it clicks while holding the ROM.



2-7. Switch Settings on Boards

Note

Do avoid changing settings of switches designated as "For factory adjustment".

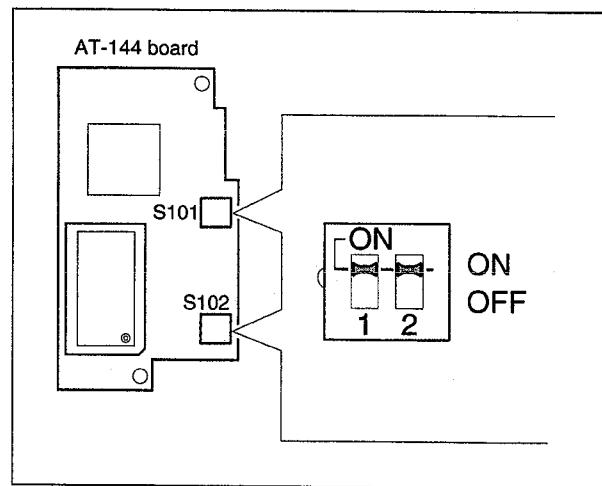
AT-114 board

S101: Camera mode setting ON or OFF

	ON	OFF
S101-1	NTSC	PAL
S101-2	DXC-D35WS	DXC-D35

S102: For factory adjustment

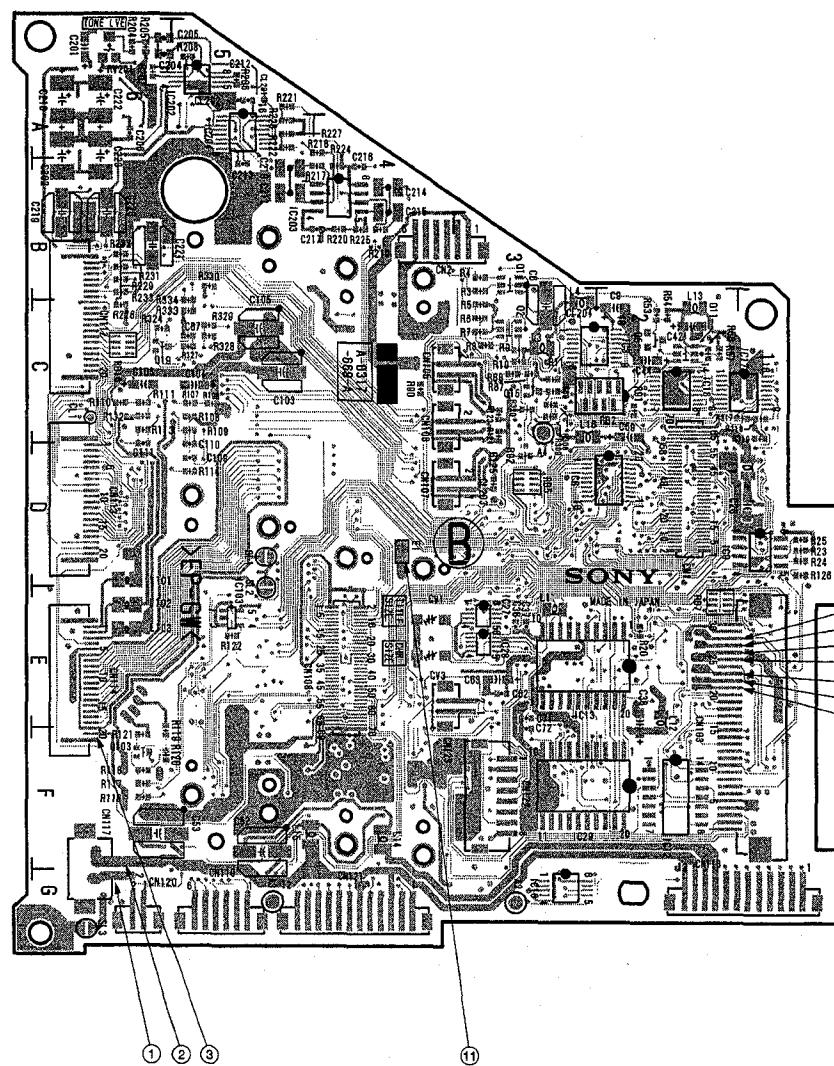
Use always with the setting OFF



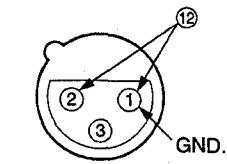
2-8. DC-DC Converter Voltage

Voltage values can be check as following ① to ⑫ points on MB board and MIC connector.

- MB board



- MIC connector



(EXTERNAL VIEW)

No.	CHECK POINT	VOLTAGE VALUE
①	CN117-2 pin	EXT. DC OUT
②	CN117-1 pin	EXT. DC GND
③	CN114-20 pin	+3.1 V
④	CN103-25 pin	+5.3 V
⑤	CN103-23 pin	-5 V
⑥	CN103-22 pin	+9 V

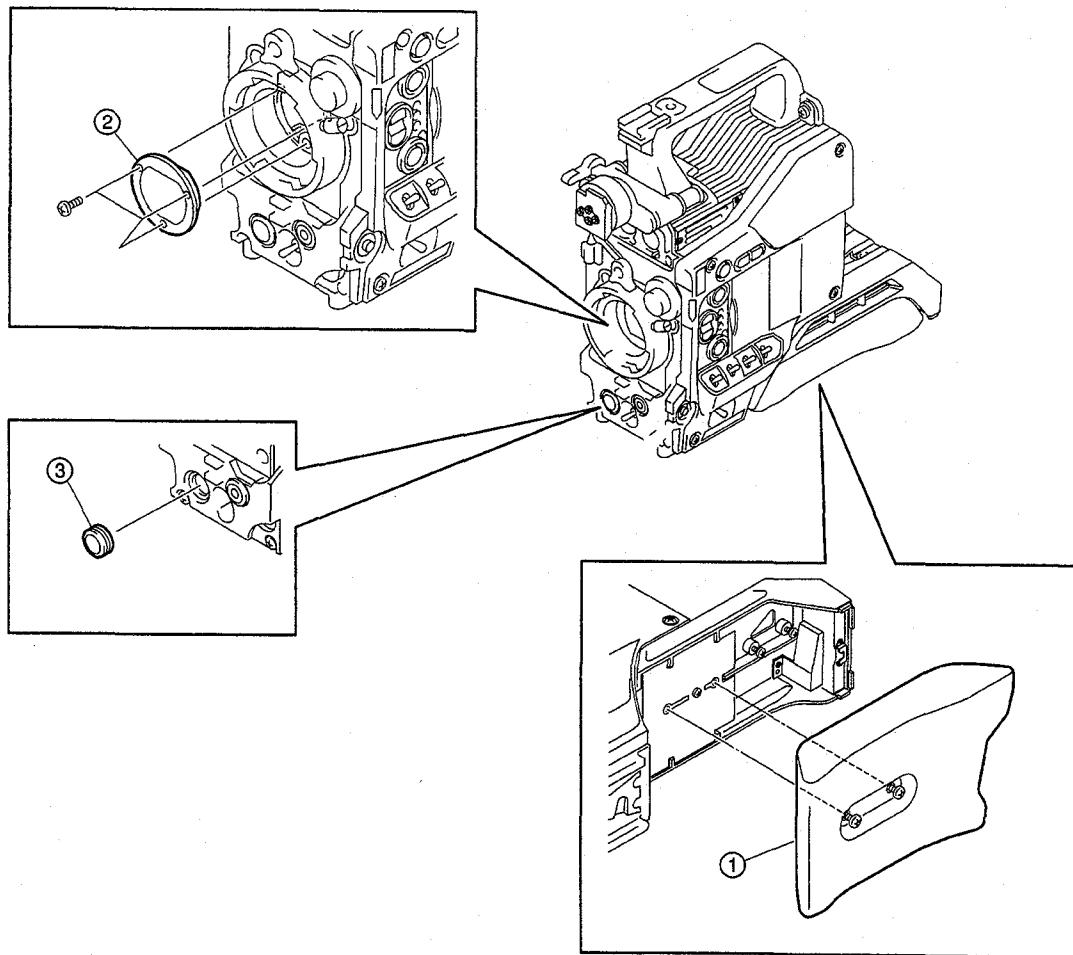
No.	CHECK POINT	VOLTAGE VALUE
⑦	CN103-21 pin	-10 V
⑧	CN103-28 pin	+6.5 V
⑨	CN103-27 pin	+16 V
⑩	CN103-26 pin	+32 V
⑪	E1 (GND)	---
⑫	MIC 2 pin/1 pin(GND)	+48 V

2-9. Recommended Replacement Parts

Parts listed below are recommended replacement parts. Optical filter unit may be turned cloudy with the lapse of time. If using a cloudy filter, the performance of the camera will not be delivered. Replace it according to necessary.

Parts made of rubber used in the unit are subject to cracks with the lapse of time. Visually check them sometimes and replace them according to necessary.

Fig No.	Description	Sony P/N	Remarks
①	PAD ASSY	A-8278-807-C	rubber
②	FILTER UNIT, OPTICAL	1-547-985-11	for DXC-D35
	FILTER UNIT, OPTICAL	1-547-985-21	for DXC-D35P
	FILTER UNIT, OPTICAL	1-758-131-11	for DXC-D35WS/D35WSP
③	RACKING, CONTROL	3-672-221-02	rubber



2-10. Attaching the 4-type or 5-type Viewfinder

An optional 4-type viewfinder (DXF-40 series) or 5-type viewfinder (DXF-50 series) can be attached in accordance with the following procedures:

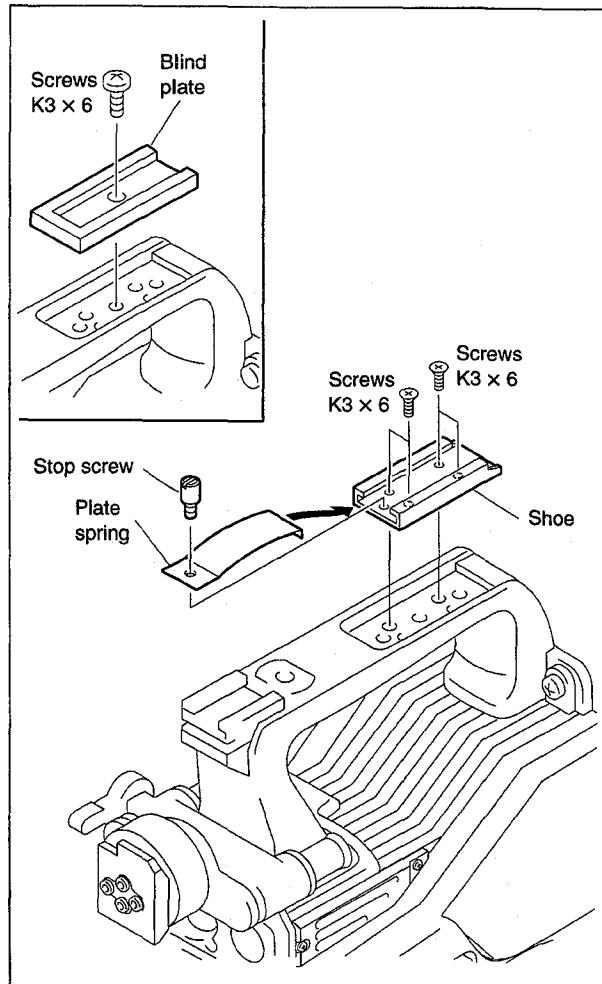
Parts Required (sold separately)

Name	Sony Part No.
Accessory shoe kit	A-8274-968-B
Shoe	3-664-218-0X
Plate spring	3-664-228-0X
Stop screw	3-664-213-0X
Screw K3 × 6 (4 pcs)	7-682-247-0X
Screw K3 × 12 (4pcs)*1	7-682-250-0X

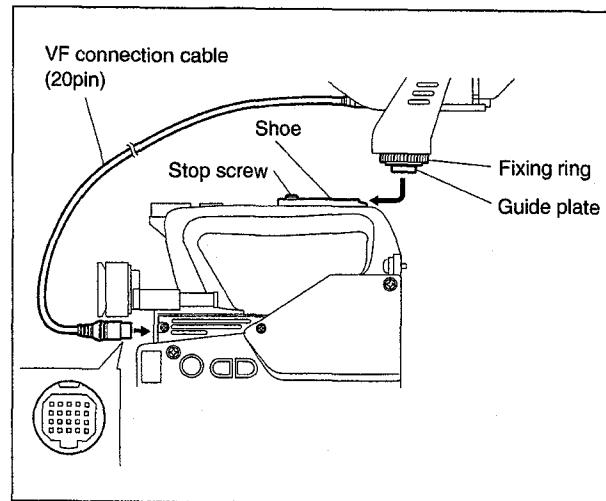
*1 : These screws are not used.

Attaching Procedure

1. Remove a screw and remove the blind plate.
2. Tighten the shoe with four screws (K3 × 6).
3. Fix the plate spring in the shoe in the arrow direction and tighten it with the stop screw.



4. Fit the guide plate in the shoe and tighten the fixing ring.
5. Connect the VF connection cable.



2-11. Disconnecting/Connecting the Flexible Card Wire

The flexible card wires are used among the CN-1294 board and the MB board, the MB board and the TG board. Be careful not to bend these wires. This shortens the wire life.

Disconnecting

1. Turn off the power of the camera.

Type A

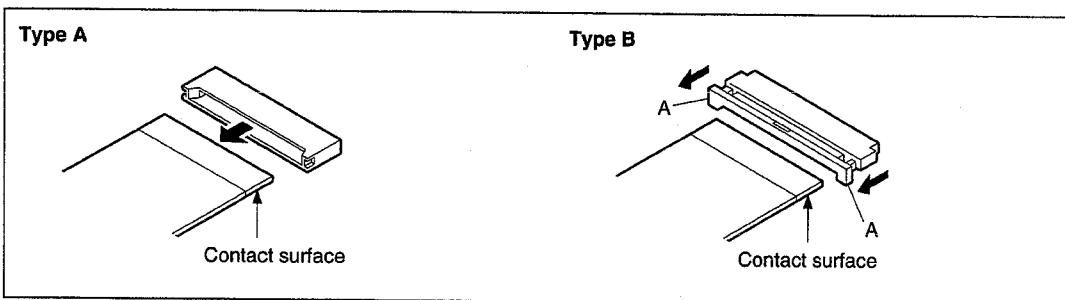
(between the MB board and CN-1294 board.)

2. Disconnect the flexible card wire.

Type B

(between the MB board and TG board)

2. Slide portion A in the direction of the arrow and disconnect the flexible card wire.



Connecting

Notes

- Be careful not to insert the flexible card wires obliquely.
- Check that the contact surface of the flexible card wire is not soiled with dust.

Type A

1. Insert the flexible card wire as far as it will go into connector with the contact surface of the wire faced to the board.

Type B

1. Slide portion A in the direction of the arrow and insert the flexible card wire as far as it will go into connector with the contact surface of the wire put down.
2. Slide portion A in the opposite direction of the arrow and lock.

2-12. Service Mode Operation

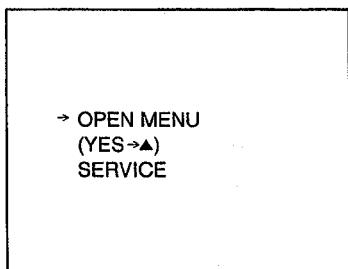
This unit has the BASIC menu, ADVANCE menu, SERVICE menu to be operated in the service mode, and FILE menu.

- **SERVICE mode**

To enter the service mode, set the S105 (OPE ↔ ADJ) on the SW-791 board to ADJ.

- **Menu select screen**

When the S105 on the SW-791 board is set to ADJ, the menu select screen is displayed.



- **Operating method**

Move the cursor to the menu items by the MENU/STATUS switch, select the menu by UP/ON button or DOWN/OFF button. (The menu changes in turn SERVICE ↔ BASIC ↔ ADVANCE ↔ FILE ↔ SERVICE.)

Under displaying the menu item to be operated, move the cursor to "OPEN MENU" and press the UP/ON button to go to the selected menu page.

When the page of the selected menu is displayed, the normal operation for the menu is available.

When exiting from the menu, the screen returns to the menu select screen.

[Reference]

The menu screen can be seen on the viewfinder or MONITOR OUT of this camera unit.

2-12-1. Service Menu

Reset items and standard values to be set.

Page	Item	Standard set value	
		UC	PAL
4	M.PKNEE1	65	65 70 *
	M.PKNEE2	120	120
	M.PKNEE3	160	160
	M.PKNEE4	215	215
	R PKNEE	128	128
	B PKNEE	128	128
9	NTSC SETUP	ON	-
	READ OUT	FD	-
	V BLKG	20H	-
PAL	COMP LEV	-	525
	READ OUT	-	FD
10	TEST	OFF	OFF
	R-Y	ON	ON
	B-Y	ON	ON
13	GAMMA	ON	ON
	MATRIX	ON	ON
	DETAIL	ON	ON
	APERTURE	ON	ON
	FLARE	ON	ON
14	R TITLE	75	75
	G TITLE	75	75
	B TITLE	75	75
	R EDGE	0	0
	G EDGE	0	0
	B EDGE	0	0
15	M.GAMMA	132	132
	R GAMMA	±0	±0
	B GAMMA	±0	±0
	M.BLACK	2070	2075
16	WHT CLIP	255	255
	HI L.SAT	152	152
	IRIS GAIN	128	128
	IRIS MODE	100	100
	IRIS SET	144	144
	LOW LIGHT	144	160

Page	Item	Standard set value	
		UC	PAL
18	FILTER1	3200k	3200k
	FILTER2	5600k + 1/8ND	5600k + 1/8ND
	FILTER3	5600k	5600k
	FILTER4	5600k + 1/64ND	5600k + 1/64ND
19	DIAG ERROR RESET	-	-
	MEMORY BACKUP	-	-
20	Self-diagnosis result display1	1	1
21	Self-diagnosis result display2	1	1
22	Self-diagnosis result display3	1	1
26	OPTION1	OFF	OFF
	OPTION2	OFF	OFF

*: for DXC-D35WSP

• **Page 1 RESET**
(For DXC-D35/D35WS)

→PAGE1 (NEXT→▼ PREV→▲)

RESET
(YES→▲)
DEST : UC
ROM VER : ***

EXIT MENU (YES→▲)

Adjusting values such as the electronic volume control of each board except the values differ in every unit can be restored to their standard setting values.

Move the cursor to "DEST" position, select "UC," and move the cursor to "RESET," then press UP/ON button twice.

(For DXC-D35P/D35WSP)

→PAGE1 (NEXT→▼ PREV→▲)

RESET
(YES→▲)
ROM VER : ***

EXIT MENU (YES→▲)

• **Page 2 Shading Correction**

→PAGE2 (NEXT→▼ PREV→▲)

EXTENDER OFF
AUTO SHAD
(YES→▲)
R W. SHAD : 128
G W. SHAD : 128
B W. SHAD : 128

EXIT MENU (YES→▲)

EXTENDER Current LENS EXTENDER status display

AUTO SHAD Performing of AUTO SHADING correction

R W.SHAD/G W.SHAD/B W.SHAD

White shading correction of V

Standard (correct.on 0) = 128

• **Page 3 Flare Adjustment**

→PAGE3 (NEXT→▼ PREV→▲)

R FLARE : 0
G FLARE : 0
B FLARE : 0

EXIT MENU (YES→▲)

R FLARE Rch flare correction (0 = no correction) amount adjustment

G FLARE Gch flare correction (0 = no correction) amount adjustment

B FLARE Bch flare correction (0 = no correction) amount adjustment

• Page 4 Pre Knee Setting

→PAGE4 (NEXT→▼ PREV→▲)

M.PKNEE1	:	65
M.PKNEE2	:	120
M.PKNEE3	:	160
M.PKNEE4	:	215
R PKNEE	:	128
B PKNEE	:	128

EXIT MENU (YES→▲)

M.PKNEE1	Usual master pre-knee point adjustment
M.PKNEE2	Master pre-knee point in GAIN -3 dB adjustment
M.PKNEE3	Master pre-knee point in flame read out mode adjustment
M.PKNEE4	Master pre-knee point in GAIN -3dB & flame read out mode adjustment

P PKNEE	Fine adjustment for the R channel's pre-knee point
B PKNEE	Fine adjustment for the B channel's pre-knee point

• Page 5 Camera COMPONENT Level Adjustment

→PAGE5 (NEXT→▼ PREV→▲)

W Y LEV	:	120
W R-Y LEV	:	100
W B-Y LEV	:	100
Y LEV	:	120
R-Y LEV	:	111
B-Y LEV	:	100
SYNC LEV	:	80
SETUP LEV	:	135
EXIT MENU	(YES→▲)	

WY LEV	16:9 Y level adjustment*
W R-Y LEV	16:9 R-Y level adjustment*
W B-Y LEV	16:9 B-Y level adjustment*
Y LEV	4:3 Y level adjustment
R-Y LEV	4:3 R-Y level adjustment
B-Y LEV	4:3 B-Y level adjustment
SYNC LEV	SYNC level adjustment
SETUP LEV	SETUP level adjustment

(NTSC model only adjustable when setup is on.)

* : Adjustable only for DXC-D35WS/D35WSP

• Page 6 Camera CLAMP Level Adjustment

→PAGE6 (NEXT→▼ PREV→▲)

Y CLP	:	128
R-Y CLP	:	120
B-Y CLP	:	120

EXIT MENU (YES→▲)

Y CLP	Y clamp level adjustment
R-Y CLP	R-Y clamp level adjustment
B-Y CLP	B-Y clamp level adjustment

• Page 7 Chroma/VF Adjustment

→PAGE7 (NEXT→▼ PREV→▲)

R-Y C/B	:	110
R-Y BST	:	0
B-Y C/B	:	110
B-Y BST	:	75
VF SYNC	:	170
VF BLKG	:	135

EXIT MENU (YES→▲)

R-Y C/B	R-Y carrier balance adjustment
R-Y BST	R-Y burst level adjustment
B-Y C/B	B-Y carrier balance adjustment
B-Y BST	B-Y burst level adjustment
VF SYNC	Viewfinder video sync level adjustment
VF BLKG	Viewfinder video blanking level adjustment

• Page 8 Chroma SC Adjustment

→PAGE8 (NEXT→▼ PREV→▲)	
SC FREQ : 2550	
SC-H : 450	
EXIT MENU (YES→▲)	

SC FREQ SC frequency adjustment
 SC-H SC-H phase adjustment

• Page 9 Various Setting 1
 (For DXC-D35/D35WS)

→PAGE9 (NEXT→▼ PREV→▲)	
SETUP : OFF	
READ OUT : FD	
V BLKG : 20H	
EXIT MENU (YES→▲)	

SETUP ON/OFF control of setup
 READ OUT FD (Field): CCD switches to Field read mode
 FM (Frame): CCD switches to Frame read mode
 V BLKG V blanking width setting (19/20/21H)

[Reference]

In frame read out, higher vertical resolution can be obtained, however, in such a case image lag is increasing.

If shutter function is on in frame read out, sensitivity drops in half against the normal.

(For DXC-D35P/D35WSP)

→PAGE9 (NEXT→▼ PREV→▲)	
SETUP : OFF	
READ OUT : FD	
V BLKG : 20H	
EXIT MENU (YES→▲)	

COMP LEV 525/700 selection of color difference output
 (pin 26)
 READ OUT FD (Field): CCD switches to Field read mode
 FM (Frame): CCD switches to Frame read mode

• Page 10 TEST MODE

→PAGE10 (NEXT→▼ PREV→▲)	
TEST : OFF	
R-Y : ON	
B-Y : ON	
EXIT MENU (YES→▲)	

TEST TEST OFF: TEST SAW
 TEST: 1 Displays 100 % TEST SAW.
 TEST: 2 Displays 226 % TEST SAW.
 TEST: 3 Displays 226 % TEST SAW
 in the lower side of screen.
 R-Y ON/OFF control of R-Y output
 B-Y ON/OFF control of B-Y output

• Page 11 CCD BLOCK No. Information

→PAGE11 (NEXT→▼ PREV→▲)
HEAD 1 : G
HEAD 2 : V
HEAD 3 : 0
HEAD 4 : 0
HEAD 5 : 0
HEAD 6 : 1
HEAD 7 : 6
EXIT MENU (YES→▲)

HEAD1 to 7 CCD block number

Note

Be sure to input the CCD block number which is shown on the side of CCD unit after the replacement of TG board or the EEPROM (IC1) on the TG board.

• Page 12 Sub-Voltage Information

→PAGE12 (NEXT→▼ PREV→▲)
R RG : 90
G RG : 90
B RG : 90
R SUB : 128
G SUB : 128
B SUB : 128
TPC : ±0
EXIT MENU (YES→▲)

R RG	R RG-voltage setting
G RG	G RG-voltage setting
B RG	B RG-voltage setting
R SUB	R channel sub-voltage setting
G SUB	G channel sub-voltage setting
B SUB	B channel sub-voltage setting
TPC	NR temperature compensation constant setting

Note

Values shown on the screen depend on each CCD unit. Never change the value.

• Page 13 Various Setting 2

→PAGE13 (NEXT→▼ PREV→▲)
GAMMA : ON
MATRIX : ON
DETAIL : ON
APERTURE : ON
FLARE : ON
EXIT MENU (YES→▲)

GAMMA	ON/OFF control of GAMMA
MATRIX	ON/OFF control of MATRIX
DETAIL	ON/OFF control of DETAIL
APERTURE	ON/OFF control of APERTURE
FLARE	ON/OFF control of FLARE correction

• Page 14 TITLE Color Setting

→PAGE14 (NEXT→▼ PREV→▲)
R TITLE : 75
G TITLE : 75
B TITLE : 75
R EDGE : 0
G EDGE : 0
B EDGE : 0
ABC123
EXIT MENU (YES→▲)

When displaying the title in the video signal, title color can be set manually. Besides, edge color of title character can be set manually.

R TITLE	Title's R level (0/25/50/75)
G TITLE	Title's G level (0/25/50/75)
B TITLE	Title's B level (0/25/50/75)
R EDGE	Title edge's R level (0/25/50/75)
G EDGE	Title edge's G level (0/25/50/75)
B EDGE	Title edge's B level (0/25/50/75)
ABC123	Indication for checking actual title color

• Page 15 Various Setting 3

→PAGE15 (NEXT→▼ PREV→▲)	
M.GAMMA	: 132
R.GAMMA	: ± 0
B.GAMMA	: ± 0
M.BLACK	: 2083
EXIT MENU (YES→▲)	

M.GAMMA	Standard value setting of master GAMMA
R.GAMMA	R channel's GAMMA offset setting
B.GAMMA	B channel's GAMMA offset setting
M.BLACK	Standard value setting of master BLACK

• Page 16 CLIP/IRIS Related Setting

→PAGE16 (NEXT→▼ PREV→▲)	
WHT CLIP	: 255
HI L.SAT	: 152
IRIS GAIN	: 128
IRIS MODE	: 100
IRIS SET	: 144
LOW LIGHT	: 152
EXIT MENU (YES→▲)	

WHT CLIP	Standard value setting of WHITE CLIP level
HI L.SAT	Setting of saturation in the high-light portion
IRIS GAIN	Setting of auto iris following speed
IRIS MODE	Setting of auto iris's peak and average values.
IRIS SET	Setting of the target value of auto iris
LOW LIGHT	Setting of LOW LIGHT warning indication level * For DXC-D35/D35WS : 152 For DXC-D35P/D35WSP : 160

• Page 17 Color Temperature Calculation Reference Setting

→PAGE17 (NEXT→▼ PREV→▲)	
COLOR TEMP CAL. (YES→PUSH)	
R	: 128
B	: 128
MIC ADJ	: 130
EXIT MENU (YES→▲)	

COLOR TEMP CAL.	Captures the reference value of color temperature indication
R	R channel's color temperature indication ; • Reference value setting • Result of capturing the reference value
B	B channel's color temperature indication ; • Reference value setting • Result of capturing the reference value

Notes

In COLOR TEMP CAL., it captures the color temperature calculation reference value during operating of White Balance auto adjustment. Normally, it is not necessary to perform this adjustment.

If the color temperature value, which is indicated on the screen, differs from an actual value, perform CCD OUT level adjustment and etc. and to capture the reference value as follows:

1. Shoot the pattern (color temperature = 3200 K).
2. Set the WHT BAL switch to A or B, and perform Auto White adjustment.
3. Move the cursor on the COLOR TEMP CAL. position and push the UP /ON button.

MIC ADJ Setting of musical note mark indication level

• Page 18 FILTER Display Setting

→PAGE18 (NEXT→▼ PREV→▲)

FILTER1 : 3200
FILTER2 : 5600+1/8ND
FILTER3 : 5600
FILTER4 : 5600+1/64ND

EXIT MENU (YES→▲)

FILTER 1 to 4

Make this setting in accordance with a kind of filter attached.

Note

When changing the filter, be sure to make a set.

• Page 19 Self Diagnosis 1

→PAGE19 (NEXT→▼ PREV→▲)

DIAG ERROR RESET
(YES→▲)

MEMORY BACKUP
(YES→▲)

EXIT MENU (YES→▲)

DIAG ERROR RESET

This item is used for erasing an error check results and a history of error items.

MEMORY BACKUP

This item is used when back up the EEPROMs data on the TG, IF, and ES boards to EEPROM on the MB board.

Note

Backup is needed when the TG, IF, or ES board has been replaced.

Reference

If there is a communication error between the TG, IF, or ES board's EEPROM and microcomputer when the power is turned on, the backed up data in EEPROM on the MB board is used.

The "DIAG ERROR RESET" and "MEMORY BACKUP" will be also carried out when the RESET in Service Menu Page 1 is executed.

• Page 20 Selfdiagnosis 2

PAGE20 (NEXT→▼ PREV→▲)
ERROR DISP 1/3
→DISP SELECT : 1
PP-PMPD : 000H
PR-PMPD1 : 000H
PR-PMPD2 : 000H
PR-G2 : 000H
PR-R2 : 000H
EXIT MENU (YES→▲)

DISP SELECT

The contents of the defective item display are switched.

- 1: The result of latest error check is displayed.
- 2: This selfdiagnosis is automatically carried out, and the defective items diagnosed in the past are displayed.

PP-PMPD

The details of check result for the synchronization signal input and the internal RAM in PP LSI are displayed.

800H: The internal RAM of PP LSI is abnormal.

002H: The input HD signal (PR board IC405, pin 102) to the PP LSI is abnormal.

001H: The input VD signal (PR board IC405, pin 101) to the PP LSI is abnormal.

PR-PMPD1

The details of check result for the synchronization signal input in RP LSI are displayed.

002H: The input HD signal (PR board IC411, pin74) to the PR LSI is abnormal.

001H: The input VD signal (PR board IC411, pin73) to the PR LSI is abnormal.

PR-PMPD2

The details of check result for the internal RAM in PR LSI are displayed.

800H: The internal RAM of PR LSI is abnormal.

PR-G2

This display item is not used.

PR-R2

This display item is not used.

Reference

When the plurality of abnormality occurs, the hexadecimal numbers of three digits are displayed for indicating the total value of each error codes.

Example : When both HD and VD signals input to the PP LSI are abnormal, the PP-PMPD displays is 003H.

• Page 21 Selfdiagnosis 3

PAGE21 (NEXT→▼ PREV→▲)
ERROR DISP 2/3
→DISP SELECT : 1
PR-G1 : 000H
PR-R1 : 000H
PR-G0 : 000H
PR-R0 : 000H
PR-B1 : 000H
EXIT MENU (YES→▲)

PR-G1

This display item is not used.

PR-R1

This display item is not used.

PR-G0

This display item is not used.

PR-R0

This display item is not used.

PR-B1

This display item is not used.

• Page 22 Selfdiagnosis 4

PAGE22 (NEXT→▼ PREV→▲)
ERROR DISP 3/3
→DISP SELECT : 1
RC- PMPD: 000H
RC- CY : 000H
RC- CCR : 000H
RC- CCB : 000H
DSP COM. : 000H
MEMORY : 000H
EXIT MENU (YES→▲)

RC-PMPD

The details of check result for synchronization signal input and the internal RAM in RC LSI are displayed.

800H: The internal RAM of RC LSI is abnormal.

004H: The input CF signal (IF board IC520, pin63) to the RC LSI is abnormal.

002H: The input HD signal (IF board IC520, pin64) to the RC LSI is abnormal.

001H: The input VD signal (IF board IC520, pin65) to the RC LSI is abnormal.

RC-CY

The details of check result for the connection regarding the Y signal between PR LSI and RC LSI are displayed.

400H: The connection between PR board IC411 pin94 and IF board IC520 pin97 is abnormal. (The No.10 of Y signal)

200H: The connection between PR board IC411 pin93 and IF board IC520 pin98 is abnormal. (The No.9 of Y signal)

100H: The connection between PR board IC411 pin92 and IF board IC520 pin99 is abnormal. (The No.8 of Y signal)

080H: The connection between PR board IC411 pin91 and IF board IC520 pin100 is abnormal. (The No.7 of Y signal)

040H: The connection between PR board IC411 pin90 and IF board IC520 pin101 is abnormal. (The No.6 of Y signal)

020H: The connection between PR board IC411 pin89 and IF board IC520 pin103 is abnormal. (The No.5 of Y signal)

010H: The connection between PR board IC411 pin88 and IF board IC520 pin104 is abnormal. (The No.4 of Y signal)

008H: The connection between PR board IC411 pin86 and IF board IC520 pin105 is abnormal. (The No.3 of Y signal)

004H: The connection between PR board IC411 pin85 and IF board IC520 pin106 is abnormal. (The No.2 of Y signal)

002H: The connection between PR board IC411 pin84 and IF board IC520 pin107 is abnormal. (The No.1 of Y signal)

001H*: The connection between PR board IC411 pin83 and IF board IC520 pin108 is abnormal. (The No.0 of Y signal)

*: DXC-D35WS/D35WSP do not have this function.

RC-CCR (DXC-D35WS/D35WSP do not have this function.)

The details of check result for the connection regarding the CR signal between PR LSI and RC LSI are displayed.

- 400H: The connection between PR board IC411 pin108 and IF board IC520 pin84 is abnormal. (The No.10 of CR signal)
- 200H: The connection between PR board IC411 pin107 and IF board IC520 pin85 is abnormal. (The No.9 of CR signal)
- 100H: The connection between PR board IC411 pin106 and IF board IC520 pin86 is abnormal. (The No.8 of CR signal)
- 080H: The connection between PR board IC411 pin104 and IF board IC520 pin87 is abnormal. (The No.7 of CR signal)
- 040H: The connection between PR board IC411 pin103 and IF board IC520 pin88 is abnormal. (The No.6 of CR signal)
- 020H: The connection between PR board IC411 pin102 and IF board IC520 pin89 is abnormal. (The No.5 of CR signal)
- 010H: The connection between PR board IC411 pin101 and IF board IC520 pin92 is abnormal. (The No.4 of CR signal)
- 008H: The connection between PR board IC411 pin100 and IF board IC520 pin93 is abnormal. (The No.3 of CR signal)
- 004H: The connection between PR board IC411 pin99 and IF board IC520 pin94 is abnormal. (The No.2 of CR signal)
- 002H: The connection between PR board IC411 pin98 and IF board IC520 pin95 is abnormal. (The No.1 of CR signal)
- 001H: The connection between PR board IC411 pin95 and IF board IC520 pin96 is abnormal. (The No.0 of CR signal)

RC-CCB (DXC-D35WS/D35WSP do not have this function.)

The details of check result for the connection regarding the CB signal between PR LSI and RC LSI are displayed.

- 400H: The connection between PR board IC411 pin121 and IF board IC520 pin70 is abnormal. (The No.10 of CB signal)
- 200H: The connection between PR board IC411 pin120 and IF board IC520 pin71 is abnormal. (The No.9 of CB signal)
- 100H: The connection between PR board IC411 pin119 and IF board IC520 pin72 is abnormal. (The No.8 of CB signal)
- 080H: The connection between PR board IC411 pin118 and IF board IC520 pin75 is abnormal. (The No.7 of CB signal)
- 040H: The connection between PR board IC411 pin117 and IF board IC520 pin76 is abnormal. (The No.6 of CB signal)
- 020H: The connection between PR board IC411 pin116 and IF board IC520 pin77 is abnormal. (The No.5 of CB signal)
- 010H: The connection between PR board IC411 pin115 and IF board IC520 pin78 is abnormal. (The No.4 of CB signal)
- 008H: The connection between PR board IC411 pin112 and IF board IC520 pin79 is abnormal. (The No.3 of CB signal)
- 004H: The connection between PR board IC411 pin111 and IF board IC520 pin80 is abnormal. (The No.2 of CB signal)
- 002H: The connection between PR board IC411 pin110 and IF board IC520 pin82 is abnormal. (The No.1 of CB signal)
- 001H: The connection between PR board IC411 pin109 and IF board IC520 pin83 is abnormal. (The No.0 of CB signal)

[Reference]

If the input of synchronization signal to the PR LSI or RC LSI is abnormal, the connection check between PR LSI and RC LSI also detects the abnormality.

RC LSI relation check is carried out only when the digital output of DXC-D35/D35P is used for connecting DSR-1/1P and so on.

DSP COM

The details of check result for the communication between each LSI and microcomputer are displayed.

004H: The communication between RC LSI and microcomputer is abnormal. (IF IC520)

002H: The communication between PR LSI and microcomputer is abnormal. (PR IC411)

001H: The communication between PP LSI and microcomputer is abnormal. (PR IC405)

[Reference]

The RC LSI communicates with the microcomputer by six pins of pin26(CS), pin25(SCK), pin24(SDA0), pin23(SDA1), pin22(SDA2) and pin21(SDA3).

The PR LSI communicates with the microcomputer by six pins of pin58(CS), pin57(SCK), pin56(SDA0), pin55(SDA1), pin54(SDA2) and pin53(SDA3).

The PP LSI communicates with the microcomputer by six pins of pin41(CS), pin40(SCK), pin39(SDA0), pin38(SDA1), pin37(SDA2) and pin36(SDA3). If the communication between LSI and the microcomputer is abnormal, the abnormality of other item may be detected at the same time.

MEMORY

The details of check result for the communication between each EEPROM and microcomputer are displayed.

080H: The communication between EEPROM of ES and microcomputer is abnormal.

040H: The communication between EEPROM of IF and microcomputer is abnormal.

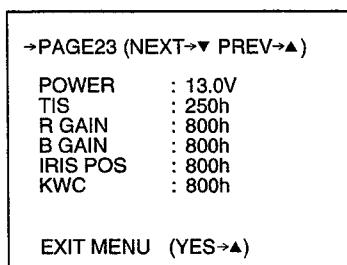
020H: The communication between EEPROM of TG and microcomputer is abnormal.

010H: The communication between EEPROM of MB and microcomputer is abnormal.

[Reference]

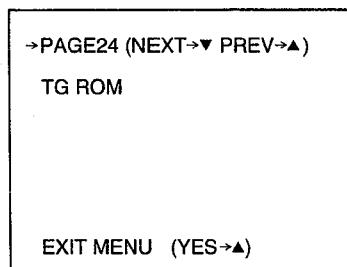
The corresponding display for the data of each EEPROM on the service menu becomes a blank column, when the EEPROM on the TG, IF, ES and MB boards is abnormal.

• **Page 23 Current Status Display**



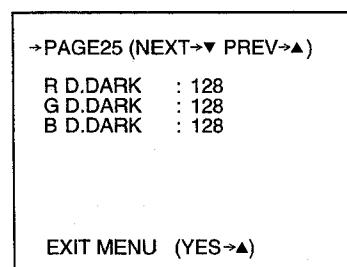
Information for production.

• **Page 24 TG ROM Operation**



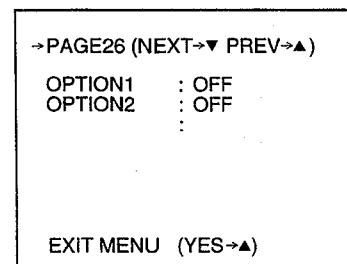
Not in use

• **Page 25 Carrier Adjustment When DPR (Dual Pixel Readout) is on.**



R D.DARK	R Carrier balance adjustment at DPR ON
G D.DARK	G Carrier balance adjustment at DPR ON
B D.DARK	B Carrier balance adjustment at DPR ON

• **Page 26 Option**



Normally this item setting is OFF.

2-12-2. File Menu**DXC-D35/D35P**

Reset items and standard values to be set.

ITEM	Standard set value					
	NO.1	NO.2	NO.3	NO.4	NO.5	NO.6 to 8
M.BLACK	±0	±0	±0	±0	±0	±0
STRETCH	±0	±0	±0	±0	±0	±0
M.GAMMA	±0	±0	±0	-33	±0	±0
DTL LEV	±0	+10	±0	-99	-40	±0
V DTL LEV	±0	±0	±0	±0	-10	±0
DTL FREQ	M	M	M	M	L	M
SAT	±0	±0	±0	±0	-5	±0
HUE	±0	±0	±0	±0	±0	±0
SKIN SAT	±0	±0	±0	±0	±0	±0
SKIN HUE	±0	±0	±0	±0	±0	±0
M.KNEE P	310	310	310	310	310	310
M.KNEE S	90	90	90	90	90	90
GAMMA TBL	B	B	B	A	B	B
COMB	OFF	OFF	OFF	OFF	OFF	OFF
R-G LEV	NTSC	65	80	99	12	65
	PAL	38	50	50	12	38
R-B LEV	NTSC	12	20	-15	9	12
	PAL	10	24	10	9	10
G-R LEV	NTSC	14	23	25	-6	14
	PAL	6	10	14	-6	6
G-B LEV	NTSC	32	46	-9	37	32
	PAL	15	30	12	37	15
B-R LEV	NTSC	10	11	0	-8	10
	PAL	6	10	10	-8	6
B-G LEV	NTSC	3	5	0	24	3
	PAL	7	12	-2	24	7
T-G WIDTH		40	40	40	40	40
R-B WIDTH		20	20	20	20	20
G-R WIDTH		20	20	20	20	20
G-B WIDTH		-40	-40	-40	-40	-40
B-R WIDTH		-20	-20	-20	-20	-20
B-G WIDTH		-20	-20	-20	-20	-20
LEVEL DEP		52	52	52	52	52
V DTL LIM		20	20	20	20	20
CRISP		10	10	10	10	10
APERTURE		128	128	128	63	35
AFT DTL		10	10	10	10	10

	Standard set value					
	NO.1	NO.2	NO.3	NO.4	NO.5	NO.6 to 8
KNEE APT	24	24	24	63	24	24
HIGH DTL	63	63	63	63	63	63
CCS LEV	5	5	5	5	5	5
STRP1	20	20	20	20	20	20
STRP2	45	45	45	45	45	45
PRSP1	8	8	8	8	8	8
PRSP2	63	63	63	63	63	63

DXC-D35WS/D35WSP

Reset items and standard values to be set.

ITEM	Standard set value					
	NO.1	NO.2	NO.3	NO.4	NO.5	NO.6 to 8
M.BLACK	STD	HISAT	FL	FILMLIKE	SVHS/VHS	USER1 to 3
STRETCH	±0	±0	±0	±0	±0	±0
M.GAMMA	±0	±0	±0	-33	±0	±0
DTL LEV	±0	10	±0	-80	-50	±0
V DTL LEV	±0	±0	±0	±0	-10	±0
DTL FREQ	M	M	M	M	L	M
SAT	±0	±0	±0	±0	-5	±0
HUE	±0	±0	±0	±0	±0	±0
SKIN SAT	±0	±0	±0	±0	±0	±0
SKIN HUE	±0	±0	±0	±0	±0	±0
M.KNEE P	310	310	310	310	310	310
M.KNEE S	90	90	90	90	90	90
GAMMA TBL	B	B	B	A	B	B
COMB	OFF	OFF	OFF	OFF	OFF	OFF
R-G LEV	NTSC	65	80	99	12	65
	PAL	38	50	50	12	38
R-B LEV	NTSC	12	20	-15	9	12
	PAL	10	24	10	9	10
G-R LEV	NTSC	14	23	25	-6	14
	PAL	6	10	14	-6	6
G-B LEV	NTSC	32	46	-9	37	32
	PAL	15	30	12	37	15
B-R LEV	NTSC	10	11	0	-8	10
	PAL	6	10	10	-8	6
B-G LEV	NTSC	3	5	0	24	3
	PAL	7	12	-2	24	7
R-G WIDTH	40	40	40	40	40	40
R-B WIDTH	20	20	20	20	20	20
G-R WIDTH	20	20	20	20	20	20
G-B WIDTH	-40	-40	-40	-40	-40	-40
B-R WIDTH	-20	-20	-20	-20	-20	-20
B-G WIDTH	-20	-20	-20	-20	-20	-20
LEVEL DEP	52	52	52	52	52	52
V DTL LIM	20	20	20	20	20	20
CRISP	10	10	10	10	10	10
APERTURE	145	145	145	128	128	145
AFT DTL	10	10	10	10	40	10

	Standard set value					
	NO.1	NO.2	NO.3	NO.4	NO.5	NO.6 to 8
KNEE APT	24	24	24	63	24	24
HIGH DTL	63	63	63	63	63	63
CCS LEV	5	5	5	5	5	5
STRP1	20	20	20	20	20	20
STRP2	45	45	45	45	45	45
PRSP1	8	8	8	8	8	8
PRSP2	63	63	63	63	63	63

• **Page 1 All Reset
(For DXC-D35/D35WS)**

→ PAGE1 (NEXT→▼ PREV→▲)

ALL RESET
(YES→▲)
DEST : UC

EXIT MENU (YES→▲)

Each item value in all FILE can be restored to their standard setting
(factory setting).

(For DXC-D35P/D35WSP)

→ PAGE1 (NEXT→▼ PREV→▲)

ALL RESET
(YES→▲)

EXIT MENU (YES→▲)

• **Page 2 File Name Change/File Reset**

→ PAGE 2 (NEXT→▼ PREV→▲)

FILE NO. : 1
FILE NAME :

(STD)
FILE RESET
(YES→▲)

EXIT MENU (YES→▲)

FILE NO. File No. of operation item
FILE NAME File name of operation item file
FILE RESET Performing of FILE RESET

• **Page 3 File Recall**

→ PAGE3 (NEXT→▼ PREV→▲)

FILE RECALL
FILE :*HISAT
SELECT FILE
STD
CHG FILE
(YES→▲)

EXIT MENU (YES→▲)

FILE File name which is recalled
SELECT FILE Select file to be recalled
CHG FILE Performing of FILE RECALL

• **Page 4 File Basic Setting**

```
→ PAGE4 (NEXT→▼ PREV→▲)
M.BLACK : ± 0
STRETCH : ± 0
M.GAMMA : ± 0
DTL LEV : ± 0
V DTL LEV : - 10
DTL FREQ : M

EXIT MENU (YES→▲)
```

M.BLACK	Master black level setting
STRETCH	Black stretch level setting
M.GAMMA	Master GAMMA level setting
DTL LEV	Detail level setting
V DTL LEV	V detail level setting
DTL FREQ	Detail center frequency setting

FILE DATA selected with SET UP switch is displayed on the PAGE 4 to 11. When data value is changed, the data in the FILE DATA selected with SET UP switch is also rewritten.

When the SET UP switch is switched while any of PAGE 4 to 11 is displayed, the display is changed in response to the SET UP switch position.

• **Page 5 File HUE Setting**

```
→ PAGE5 (NEXT→▼ PREV→▲)
SAT : ± 0
HUE : ± 0
SKIN SAT : ± 0
SKIN HUE : ± 0

EXIT MENU (YES→▲)
```

SAT	Chroma setting
HUE	HUE setting
SKIN SAT	Chroma setting for the skin tone area
SKIN HUE	HUE setting for the skin tone area

• **Page 6 File Knee /GAMMA Setting**

```
→ PAGE6 (NEXT→▼ PREV→▲)
M.KNEE P : 300
M.KNEE S : 90
GAMMA TBL : B
COMB : OFF

EXIT MENU (YES→▲)
```

M.KNEE P	Standard value setting of master knee point
M.KNEE S	Standard value setting of master knee slope
GAMMA TBL	Selection of GAMMA table A/B
COMB	A : Rising gain 3.5-fold B : Rising gain 4.0-fold COMB Filter selection (OFF/GR/R/G)

• **Page 7 File Matrix Center Value Setting**

```
→ PAGE7 (NEXT→▼ PREV→▲)
R-G LEV : 38
R-B LEV : 10
G-R LEV : 6
G-B LEV : 15
B-R LEV : 6
B-G LEV : 7

EXIT MENU (YES→▲)
```

R-G LEV	R-G coefficient center value setting
R-B LEV	R-B coefficient center value setting
G-R LEV	G-R coefficient center value setting
G-B LEV	G-B coefficient center value setting
B-R LEV	B-R coefficient center value setting
B-G LEV	B-G coefficient center value setting

• **Page 8 File Matrix Variable Width Setting**

→ PAGE8 (NEXT→▼ PREV→▲)	R-G WIDTH	HUE variable width of R-G coefficient setting
	R-B WIDTH	HUE variable width of R-B coefficient setting
	G-R WIDTH	HUE variable width of G-R coefficient setting
	G-B WIDTH	HUE variable width of G-B coefficient setting
	B-R WIDTH	HUE variable width of B-R coefficient setting
	B-G WIDTH	HUE variable width of B-G coefficient setting
EXIT MENU (YES→▲)		

• **Page 9 File Core Related Setting**

→ PAGE9 (NEXT→▼ PREV→▲)	LEVEL DEP	Level depend level setting
	V DTL LIM	V detail compression setting
	CRISP	CRISPENING level setting
EXIT MENU (YES→▲)		

• **Page 10 File Detail Related Setting**

→ PAGE10 (NEXT→▼ PREV→▲)	APERTURE	Aperture level setting
	AFT DTL	Setting of the detail amount to be added after the gamma circuit
	KNEE APT	Setting of the detail amount higher than the knee point
	HIGH DTL	Setting of the detail amount in the high light area
	CCS LEV	Cross color supress level setting
EXIT MENU (YES→▲)		

• **Page 11 File Stretch Setting**

→ PAGE11 (NEXT→▼ PREV→▲)	STRP1	BLACK STRETCH Point1 setting
	STRP2	BLACK STRETCH Point2 setting
	PRSP1	BLACK COMPRESS Point1 setting
	PRSP2	BLACK COMPRESS Point2 setting
EXIT MENU (YES→▲)		

• Page 12 File Store

```
→ PAGE12 (NEXT→▼ PREV→▲)  
FILE STORE  
FILE : *HISAT  
DISTINATION FILE  
USER1  
STORE FILE  
(YES →▲)  
  
EXIT MENU (YES→▲)
```

FILE	File name to be recalled
DESTINATION FILE	Selection of FILE STORE destination
STORE FILE	Performing of FILE STORE

Section 3

Electrical Alignment

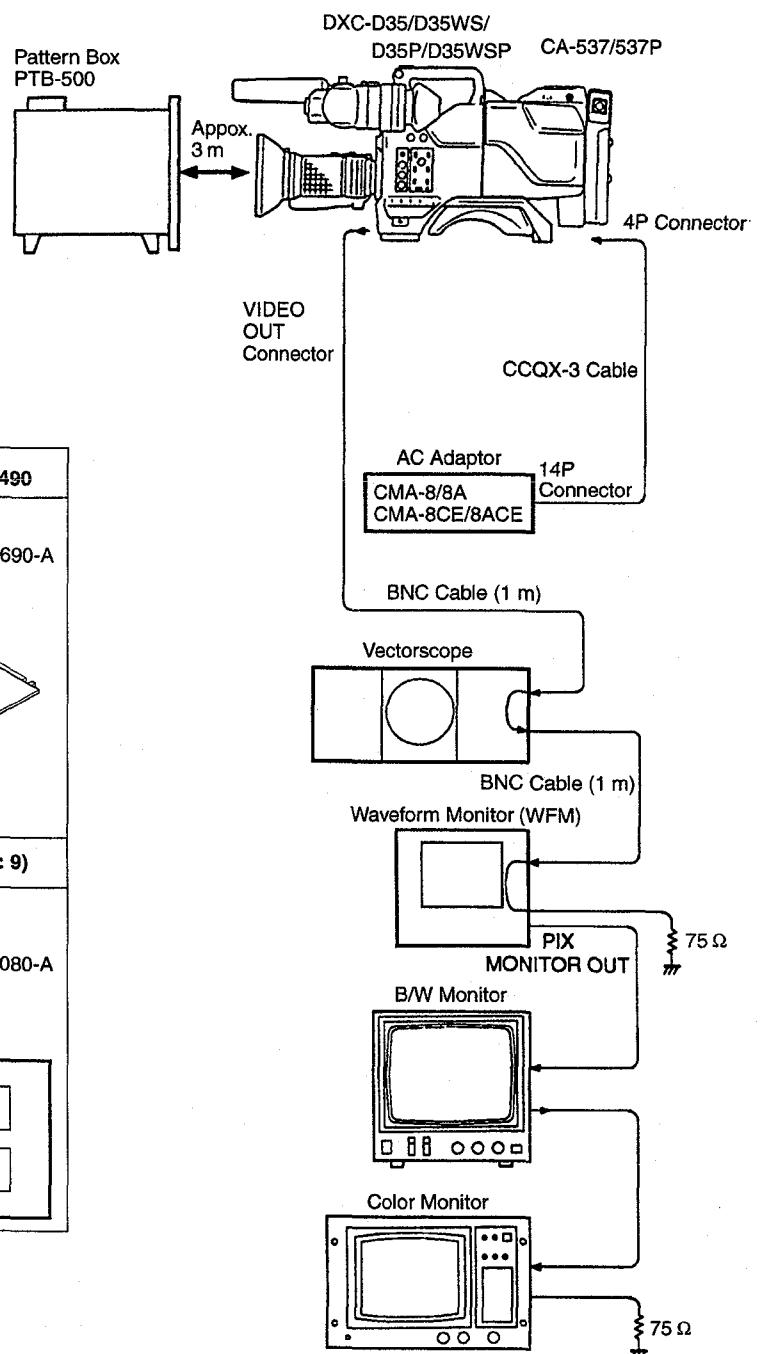
3-1. Preparation

3-1-1. Equipment Required

- Digital voltmeter
- Oscilloscope (100 MHz or more)
- Vectorscope
- Waveform monitor
- B/W monitor (Sony PVM-91/122 or equivalent)
- Color monitor (Sony PVM-1320 or equivalent)
- AC Adaptor (Sony CMA-8/8A/8CE/8ACE)
- Camera Adaptor (Sony CA-537/537P)
- Frequency counter
- SC-H Phase Equipment
- Tripod Adaptor VCT-U14

Pattern box PTB-500	extension board EX-490
Sony part number: J-6029-140-B • Light source for test chart	Sony part number: J-6275-690-A
Grayscale chart (4 : 3)	Grayscale chart (16 : 9)
(Translucent type) Sony part number: J-6026-130-B (Reflection type) Commercially available: Refer to Section 3-1-5.	(Translucent type) Sony part number: J-6394-080-A

3-1-2. Connection



3-1-3. Setting Before Adjustment

• Side Panel

GAIN switch:	LOW (0 dB)
OUTPUT/DL/DCC + switch:	CAM/DCC +
W. BAL switch:	PRESET
ZEBRA switch:	OFF
HYPER GAIN switch:	OFF
SET UP switch:	STD
EZ MODE button:	OFF
SKIN DTL switch:	OFF
ATW button:	OFF

• Front Panel

FILTER control:	1 (3200 K)
SHUTTER switch:	OFF

• Camera Adaptor

S1 switch (IF-313 board):	AUTO (Center position)
---------------------------	------------------------

• Viewfinder

DISPLAY switch:	ON
-----------------	----

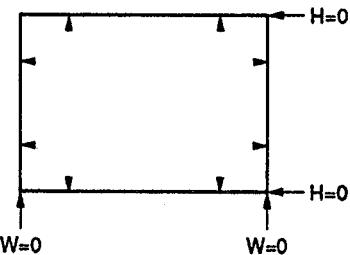
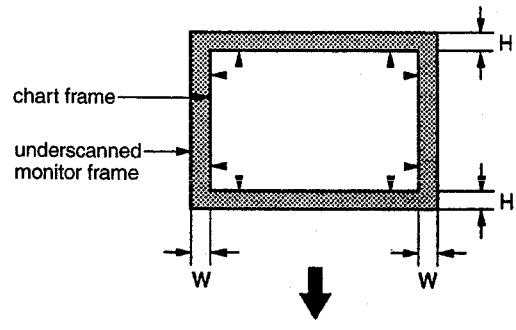
• Lens

IRIS:	M (Manual)
ZOOM:	M (Manual)

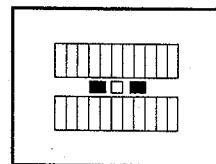
3-1-4. Notes on Adjustment

- Before adjustment, be sure to perform 10-minute warm-up.
- When using the SERVICE menu and FILE menu, refer to “2-12. Service Mode Operation”.
- To shoot the chart frame covering fully the underscanned monitor frame, perform the following procedures.

 - Set the camera to the best focus, then adjust the lens zoom and the orientation of the camera.
 - Adjust the chart frame to align with the underscanned monitor frame as shown in the figure below.



In case of the Grayscale chart:



(underscanned monitor screen)

- When replacing the CCD unit, be sure to perform the following adjustment items.
- 3-3-13. Shading Adjustment
- 3-3-14. Flare Adjustment
- If the waveform to be measured is blurred and the amplitude level is not clear, set the FILTER switch on the waveform monitor to “LUM” or “LPASS” mode.

3-1-5. Maintaining the Grayscale Chart

For the CCD OUT level adjustment and the Gamma correction adjustment, using an 89.9 %-reflective grayscale chart is preferable.

If a reflective chart is not available, use a well-maintained pattern box and a transparent grayscale chart for adjustment.

Before beginning adjustment, set the illumination of the light source (or the luminous intensity on the chart surface) properly proceeding as follows and set the color temperature to 3200 K exactly by adjusting light.

Information on the reflective grayscale chart

Recommended chart

The reflective grayscale chart is commercially available.

Recommended chart: Reflective grayscale chart (with a special case)
MURAKAMI COLOR RESEARCH LABORATORY GS-3
or equivalent

Supplier: MURAKAMI COLOR RESEARCH LABORATORY
Address: 3-11-3, Kachidoki, Chuo-ku, Tokyo, JAPAN
Postcode 104-0054
Phone: 81-3-3532-3011
Fax: 81-3-3532-2056

Handling precautions

- Do not touch the chart's surface.
- Do not subject the surface to dirt, scratches or prolonged exposure to sunlight.
- Protect the chart from excess moisture and harmful gas.
- Avoid resting articles against the case.
- Open the case and dry the chart more than an hour for a month in no use long period.

Replacement period when the chart is used as the reference

The reflective grayscale chart should be replaced every two years if it used as the reference. Because the chart deteriorates with time and proper adjustment cannot be achieved.

Replacement period varies according to storage conditions of the chart.

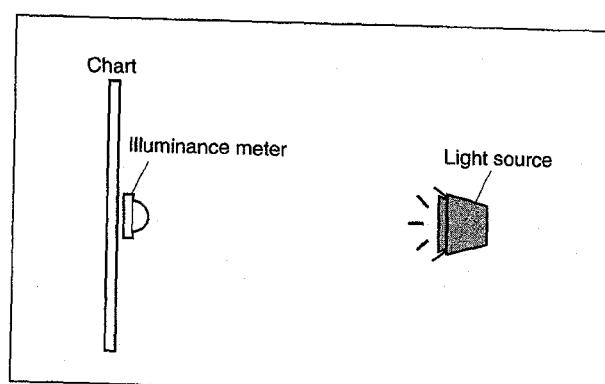
Setting illumination (when the reflective chart is used)

Equipment: Illuminance meter (Calibrated)

1. Turn on the light source and warm up for about 30 minutes.
2. Place the illuminance meter on the chart surface. Adjust the position and angle of the light source so that the whole surface of the chart is evenly 2000 lx.

Note

Light the chart from almost the same direction and height as the camera to shoot the chart.



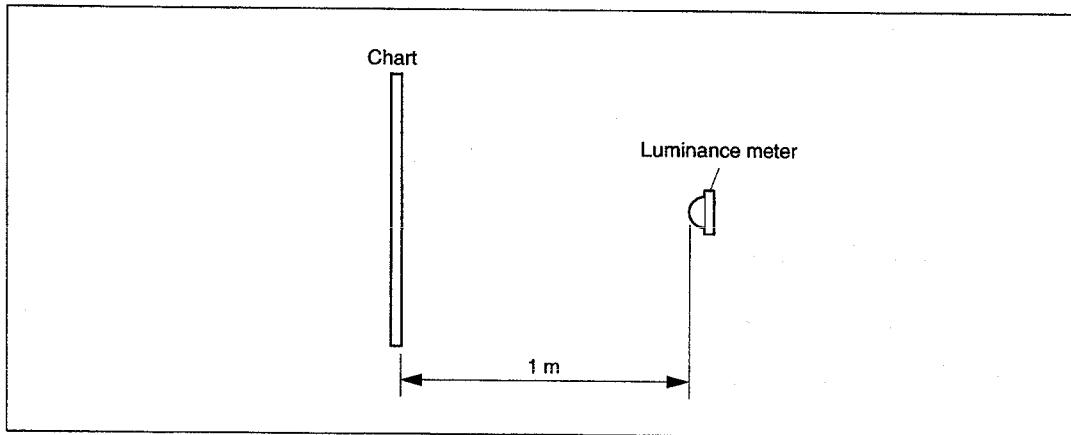
Setting luminous intensity (when the transparent chart is used)

Equipment: Luminance meter (Minolta LS-110 or equivalent. Calibrated.)

1. Light the pattern box and warm up for about 30 minutes.
2. Place the pattern box where the chart is not exposed to light, such as a darkroom.
(Or cover the pattern box with a cover whose inside is painted in black.)
3. Place the luminance meter facing straight to the chart at a distance of 1 m from it.
4. Adjust the luminance control of the pattern box so that the white portion in the center of the chart is $573 \pm 6 \text{ cd/m}^2$.

Note

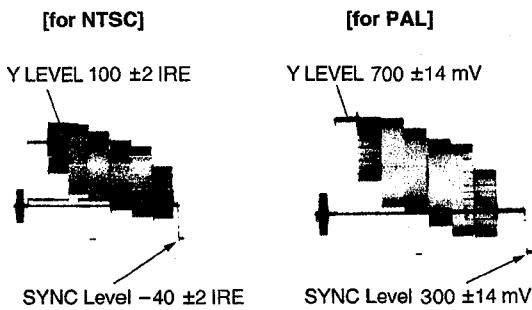
This corresponds to the luminous intensity on the 89.9 %-reflective chart at 2000 lx.



3-2. Before Adjustment

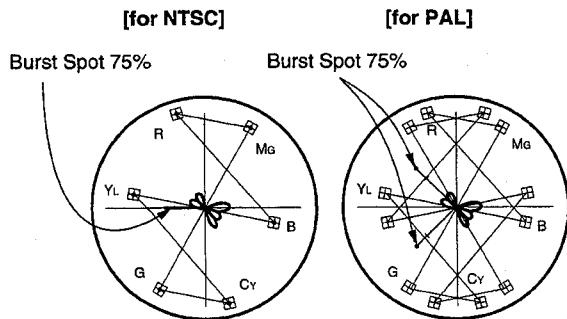
3-2-1. Color Bar Signal Confirmation

Equipment: Waveform monitor, Vectorscope
Preparation: OUTPUT/DL/DCC+ switch: BARS
Test point: VIDEO OUT connector
Specification:



- Chroma Level

Confirm that the beam spots of each color (R, Y_L, G, C_Y, G, B and M_G) are inside the area "■".



Notes

- Partial difference between scale and signal level is caused by photographic error.
- If the specifications are not met, carry out from "3-3-2. INT SC Phase Adjustment" through "3-3-9. Chroma (YC) Level Adjustment".
- Use the vectorscope conforming to setup "7.5 IRE". (for NTSC)

3-2-2. Sensitivity Measurement Confirmation

Object: Overall white
Light: 3200K, 2000 lux
 (If the pattern box is used, set the AUTO mode)

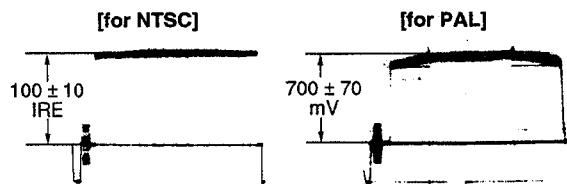
Equipment: Waveform monitor
Preparation:

- Shoot the overall white pattern covering fully the monitor frame.
- Lens iris → F11
- OUTPUT/DL/DCC + switch: CAM/DCC +
- W. BAL switch: PRESET

Note

If the zoom position is at the "TELE" edge, F value of the camera may decrease. When decreasing, adjust the distance between the pattern box and the camera and bring the zoom position slightly from the "TELE" edge to "WIDE".

Specification: 100 ±10 IRE (for NTSC)
 700 ±70 mV (for PAL)



Note

If the specification is not met, perform "3-3-11. CCD OUT Level Adjustment".

3-3. Camera Adjustment

Note

Before the adjustment, enter the "PAGE 1" of SERVICE menu, and perform the "RESET".

3-3-1. Sub-Carrier Frequency Adjustment

Equipment: Frequency counter

To be extended: ES-32 board (for DXC-D35/D35P)

ES-33 board (for DXC-D35WS/D35WSP)

Test point: TP501 (GND: E501)

/ES-32 board (for DXC-D35/D35P)

/ES-33 board (for DXC-D35WS/D35WSP)

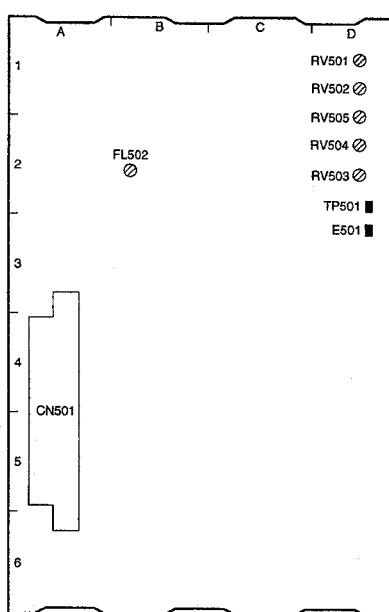
Adjusting point: SERVICE menu "PAGE 8"

→ SC FREQ:

Adjust the sub-Carrier Frequency by UP ▲ switch or DOWN ▼ switch to meet the specification.

Specification: $3,579,545 \pm 10$ Hz (for NTSC)

$4,433,618 \pm 10$ Hz (for PAL)



ES-32 board (A side) (DXC-D35/D35P)
ES-33 board (A side) (DXC-D35WS/D35WSP)

3-3-2. INT SC-H Phase Adjustment

Note

Stated below is a procedure with the SC-H phase measuring equipment (Tektronix Waveform monitor 1765).

If any other equipment is used, perform adjustment at the following adjustment point by reading the instruction manual attached.

Equipment: Waveform monitor (SC-H Phase mode)

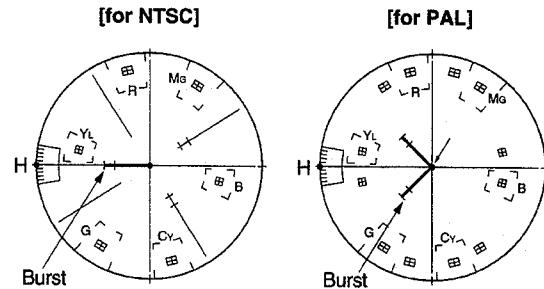
Preparation:

- Put the Tektronix Waveform monitor 1765 to SC-H mode.

Test point: VIDEO OUT connector

Adjustment Procedure

1. SERVICE menu "PAGE 8"
→ SC-H
2. Adjust the phase relationship between SC (Burst) and H beam spot correctly by UP ▲ switch or DOWN ▼ switch.



Note

After this adjustment, set the mode of Tektronix Waveform monitor 1765 to "WFM" mode.

3-3-3. Y/R-Y/B-Y CLP Level Adjustment

Equipment: Oscilloscope
To be extended: IF-532 board (for DXC-D35/D35P)
 IF-700 board (for DXC-D35WS/D35WSP)
Preparation: OUTPUT/DL/DCC + switch: BARS
Test point: TP60, 61, 62 (GND: TP63)
 /EX-490 board
Trigger: HD (TP83/EX-490 board)

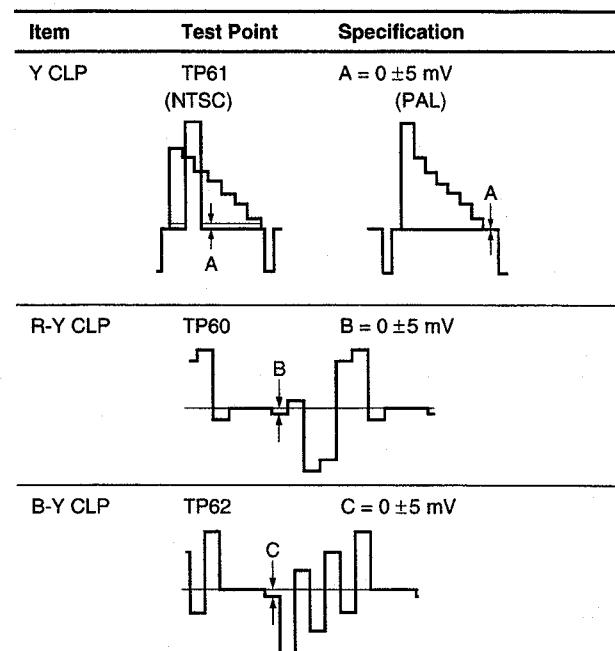
Adjustment Procedure

1. Select "PAGE 10" of SERVICE menu, make sure that R-Y and B-Y mode must be "ON".
2. SERVICE menu "PAGE 6"
 → Y CLP:
 R-Y CLP:
 B-Y CLP:
3. Adjust the following items by UP ▲ switch or DOWN ▼ switch to meet the specification.

Note

In case of Y CLP for NTSC model, perform the adjustment as follows.

- ① Select "PAGE 9" of SERVICE menu, and set the "SETUP" to "OFF".
- ② Select "PAGE 6" of SERVICE menu, and move the cursor to Y CLP.
- ③ Adjustment: A = 0 ±5 mV
- ④ Select "PAGE 9" of SERVICE menu, and set the "SETUP" to "ON".
- ⑤ And return to "PAGE 6".



DXC-D35/D35WS(UC)
 DXC-D35P/D35WSP(CE) V1

3-3-4. Y/SYNC/R-Y/B-Y Level Adjustment

Equipment: Oscilloscope
To be extended: IF-532 board (for DXC-D35/D35P)
 IF-700 board (for DXC-D35WS/D35WSP)
Preparation: OUTPUT/DL/DCC + switch: BARS
Test point: TP60, 61, 62 (GND: TP63)
 /EX-490 board
Trigger: HD (TP83/EX-490 board)

Adjustment Procedure

Note

Following procedures are for DXC-D35WS/D35WSP. For DXC-D35/D35P, perform steps 2 to 4 below.

1. Select "PAGE 9" of ADVANCE menu, set "16:9/4:3" to "4:3".
2. Select "PAGE 10" of SERVICE menu, make sure that R-Y and B-Y mode are "ON".
3. SERVICE menu "PAGE 5"
 → Y LEV:
 R-Y LEV:
 B-Y LEV:
 SYNC LEV:
 SETUP LEV:

Note

In case of Y LEV for NTSC model, perform the adjustment as follows.

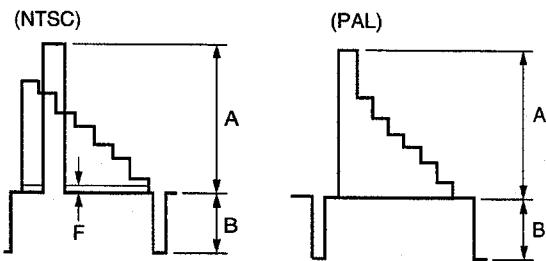
- ① Move the cursor to Y LEV.
- ② Adjust the "A" of Y LEV level.
- ③ Move the cursor to SETUP LEV, and adjust the "F" of setup level.
- ④ Repeat step ① through ③ several times.

4. Adjust by UP ▲ switch or DOWN ▼ switch.
5. Select "PAGE 9" of ADVANCE menu, and set the "16:9/4:3" to "4:3".
6. SERVICE menu "PAGE 5"
 → W Y LEV:
 W R-Y LEV:
 W B-Y LEV:
7. Adjust by UP ▲ switch or DOWN ▼ switch to meet the specification.

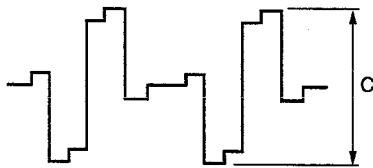
(continued)

3-3. Camera Adjustment

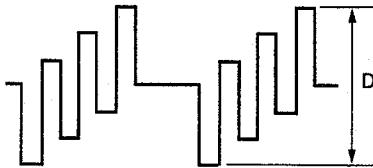
Item	Test Point	Specification
Y LEV	TP61	NTSC: A = 714 ± 10 mV F = 54 ± 5 mV PAL: A = 700 ± 10 mV
*W Y LEV	TP61	NTSC: A = 714 ± 10 mV PAL: A = 700 ± 10 mV
SYNC LEV	TP61	NTSC: B = 286 ± 5 mV PAL: B = 300 ± 5 mV



R-Y LEV	TP60	NTSC: C = 700 ± 20 mV PAL: C = 525 ± 20 mV
*W R-Y LEV	TP60	NTSC: C = 700 ± 20 mV PAL: C = 525 ± 20 mV



B-Y LEV	TP62	NTSC: D = 700 ± 20 mV PAL: D = 525 ± 20 mV
*W B-Y LEV	TP62	NTSC: D = 700 ± 20 mV PAL: D = 525 ± 20 mV



*: DXC-D35WS/35WSP only

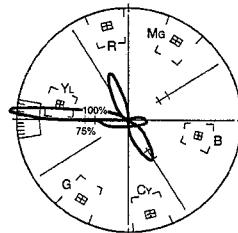
3-3-5. Carrier Balance Adjustment

Equipment: Vectroscope (MAX GAIN)
Preparation: OUTPUT/DL/DCC + switch: BARS
Test point: VIDEO OUT connector

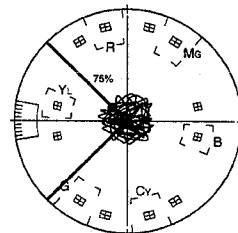
Adjusting point

1. SERVICE menu "PAGE 7"
 → R-Y C/B
 B-Y C/B
2. Adjust by the UP ▲ switch or DOWN ▼ switch to bring the beam spot of the black level in the center of the vectorscope.

[for NTSC]



[for PAL]



3-3-6. Chroma (VBS) Level Adjustment

Note

Use the vectorscope conforming to setup "7.5 IRE". (for NTSC)

Equipment: Vectorscope

To be extended: ES-32 board (for DXC-D35/D35P)
ES-33 board (for DXC-D35WS/D35WSP)

Preparation:

- GAIN switch/Vectorscope: 75 % CAL
- Adjust the PHASE control on the vectorscope so that the burst spot is overlapped to the 75 % axis.
- OUTPUT/DL/DCC + switch: BARS

Test point: VIDEO OUT connector

2. Adjust the adjusting volume controls below to enter the beam spot of each color within the area "■" specified for each color on the vectorscope screen.

● RV503 (B-Y LEV)

/ES-32 board (DXC-D35/D35P)
/ES-33 board (DXC-D35WS/D35WSP)

● FL502 (PHASE)

/ES-32 board (DXC-D35/D35P)
/ES-33 board (DXC-D35WS/D35WSP)

● RV504 (CHROMA VBS LEV)

/ES-32 board (DXC-D35/D35P)
/ES-33 board (DXC-D35WS/D35WSP)

3. Then, perform above procedure item 1 again

Adjustment Procedure

1. [for NTSC]

SERVICE menu "PAGE 7"

→ B-Y BST

Adjust by the UP ▲ switch or DOWN ▼ switch so that burst spot is located at 75 % scale mark on the vectorscope screen.

(In case of NTSC, make sure that "R-Y BST" must be "0".)

[for PAL]

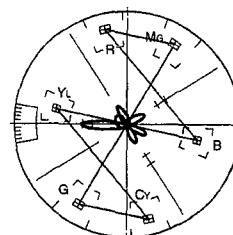
SERVICE menu "PAGE 7"

→ R-Y BST

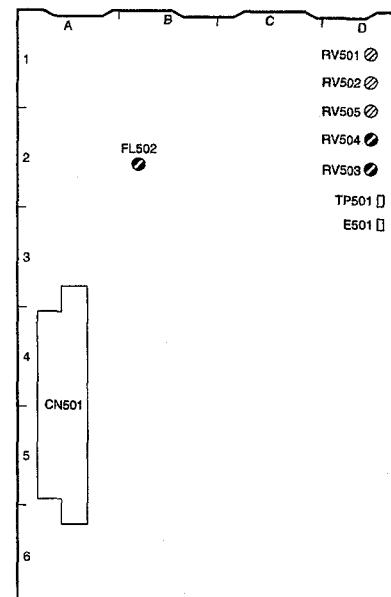
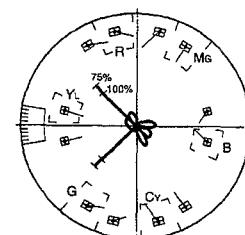
B-Y BST

Adjust "R-Y BST" and "B-Y BST" alternately by UP ▲ switch or DOWN ▼ switch so that burst spot is located at 75 % scale mark on the vectorscope screen.

[for NTSC]



[for PAL]



ES-32 board (A side) (DXC-D35/D35P)
ES-33 board (A side) (DXC-D35WS/D35WSP)

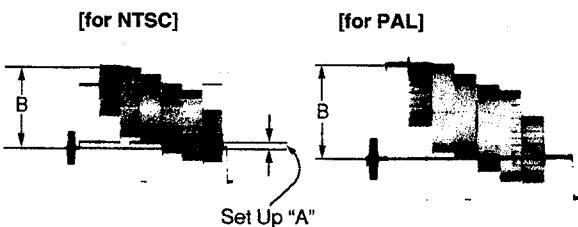
3-3-7. Y (VBS) Level Adjustment

Equipment: Waveform monitor
To be extended: ES-32 board (for DXC-D35/D35P)
 ES-33 board (for DXC-D35WS/D35WSP)
Preparation: OUTPUT/DL/DCC+ switch: BARS
Test point: VIDEO OUT connector

Adjustment Procedure

1. [for NTSC]
 - SERVICE menu "PAGE 9"
 → SET UP : ON
- [for PAL]
 - SERVICE menu "PAGE 9"
 → COMP LVL: 525 (not 700)
2. **Adjusting point:** **RV501 (Y LEVEL)**
 - /ES-32 board (for DXC-D35/D35P)
 - /ES-33 board (for DXC-D35WS/D35WSP)

Specification: B = 100 ± 2 IRE (for NTSC)
 B = 700 ± 10 mV (for PAL)



Note

In the NTSC model, check that the set up level is within A = 7.5 ± 5.0 IRE.

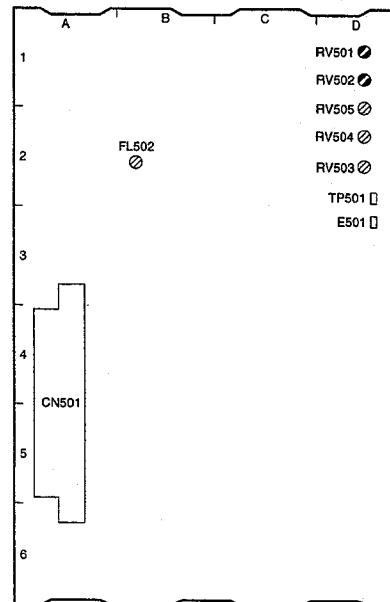
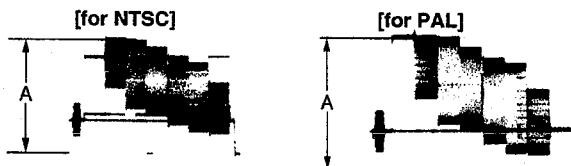
If without the range, perform the setup level adjustment in Section 3-3-4, "Y/SYNC/R-Y/B-Y Level Adjustment."

3-3-8. Y (YC) Level Adjustment

Note
 Be sure that "3-3-7. Y (VBS) Level Adjustment" is completed.

Equipment: Oscilloscope
To be extended: ES-32 board (for DXC-D35/D35P)
 ES-33 board (for DXC-D35WS/D35WSP)
Preparation: OUTPUT/DL/DCC + switch: BARS
Test point: TP66 (GND: TP67)/EX-490 board
Trigger: HD (TP84/EX-490 board)

Adjusting point: **RV502 (Y LEVEL)**
 /ES-32 board (for DXC-D35/D35P)
 /ES-33 board (for DXC-D35WS/D35WSP)
Specification: A = 1.00 ± 0.02 V (for NTSC)
 A = 1.00 ± 0.02 V (for PAL)



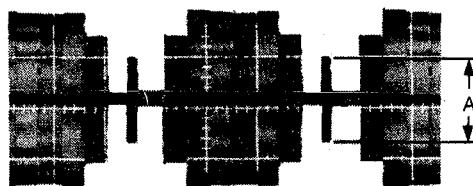
ES-32 board (A side) (DXC-D35/D35P)
 ES-33 board (A side) (DXC-D35WS/D35WSP)

3-3-9. Chroma (YC) Level Adjustment

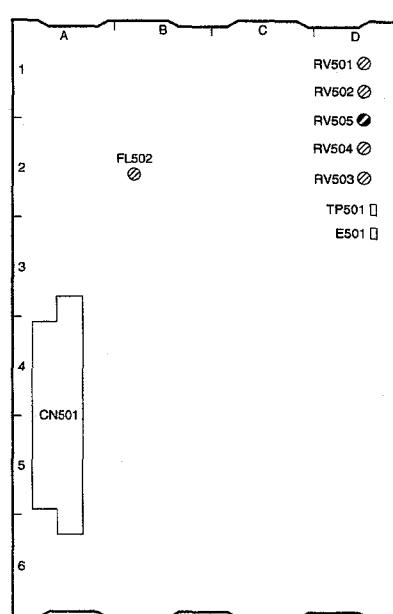
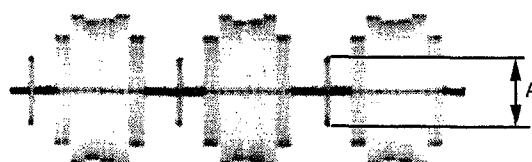
Equipment: Oscilloscope
To be extended: ES-32 board (for DXC-D35/D35P)
 ES-33 board (for DXC-D35WS/D35WSP)
Preparation: OUTPUT/DL/DCC + switch: BARS
Test point: TP64 (GND: TP65)/EX-490 board
Trigger: HD (TP84/EX-490 board)

Adjusting point: \bullet RV505 (CHROMA (YC) LEV)
 /ES-32 board (for DXC-D35/D35P)
 /ES-33 board (for DXC-D35WS/D35WSP)
Specification: A = 286 ± 5 mV (for NTSC)
 A = 300 ± 10 mV (for PAL)

[for NTSC]



[for PAL]



ES-32 board (A side) (DXC-D35/D35P)
 ES-33 board (A side) (DXC-D35WS/D35WSP)

3-3-10. VF SYNC/BLKG Level Adjustment

Equipment: Oscilloscope
To be extended: ES-32 board (for DXC-D35/D35P)
 ES-33 board (for DXC-D35WS/D35WSP)
Preparation: OUTPUT/DL/DCC + switch: BARS
Test point: TP82 (GND: TP83)/EX-490 board
Trigger: HD (TP84/EX-490 board)

Adjustment Procedure

1. SERVICE menu "PAGE 7"
 VF SYNC
 → VF BLKG

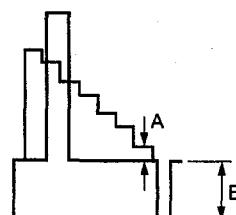
Note

For the adjustment procedure, at the first "VF BLKG" adjustment is done, and next, "VF SYNC" adjustment is done.

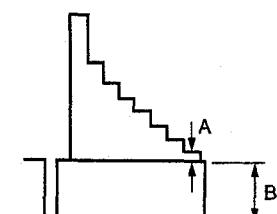
2. Adjust the following items by UP ▲ switch or DOWN ▼ switch to meet the specification.

Item	Test Point	Specification
VF BLKG	TP82	NTSC: A = 50 ± 10 mV PAL: A = 50 ± 10 mV
VF SYNC	TP82	NTSC: B = 290 ± 10 mV PAL: B = 300 ± 10 mV

[for NTSC]



[for PAL]



3-3-11. CCD Output Level Adjustment

Notes

- Usually, this adjustment is not required.
- Only when the output level of CCD unit is largely different from the specification, make the adjustment.
- When the new CCD unit for spare parts is replaced, this adjustment is not required because of the correct adjustment at the factory.
- It is advisable to use a reflection type grayscale chart for this adjustment. Further more, before adjustment, setting of the luminance (or brightness) on the chart surface and the color temperature setting are required. For details, refer to Section 3-1-5, "Maintaining the Grayscale Chart".

Lightening: 3200K, 2000 lux
 (When using the pattern box, set to Auto mode.)
Object: Grayscale chart
Equipment: Oscilloscope
To be extended: VA-165 board (for DXC-D35/D35P)
 VA-185 board (for DXC-D35WS/D35WSP)

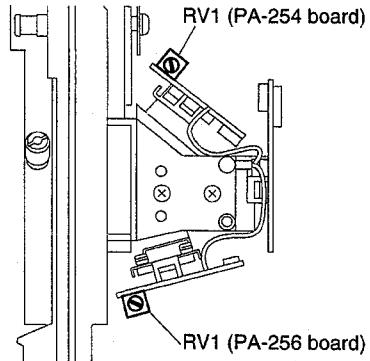
Preparation:

- OUTPUT/DL/DCC+ switch: CAM/DCC +
- W. BAL switch: PRESET
- Select a large lens iris to shoot the gray scale chart covering fully the underscanned frame.
 (Refer to Section 3-1-4.)
- Adjust the lens iris so that the video level at TP27/extension board (VA-185 board) is 165 ± 5 mV.

Trigger: HD (TP72/EX-490 board)

Adjustment Procedure

- Test point:** TP15/EX-490 board
Adjusting point: \bullet RV1/PA-254 board
Specification: $A = 165 \pm 5$ mV
- Test point:** TP21/EX-490 board
Adjusting point: \bullet RV1/PA-256 board
Specification: $A = 165 \pm 5$ mV



3-3-12. Carrier Adjustment at DPR (Double Pixel Reading) ON

Equipment: Waveform monitor, Vectorscope (MAX GAIN)

Preparation:

- HYPER GAIN switch: ON
- OUTPUT/DL/DCC + switch: CAM/DCC +

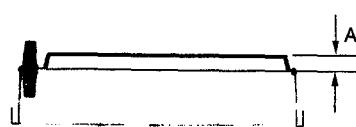
Test point: VIDEO OUT connector

Adjustment Procedure

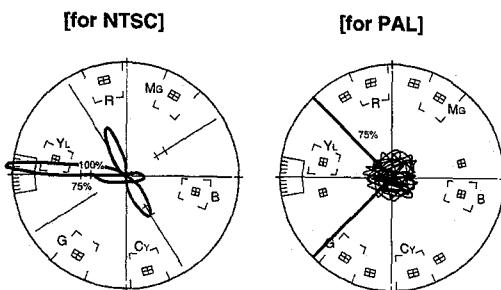
1. SERVICE menu "PAGE25"
→ R D.DARK:
 G D.DARK:
 B D.DARK:
2. Set the lens iris to the close (C).
3. Adjust the settings of R D.DARK, G D.DARK and B D.DARK by UP ▲ switch or DOWN ▼ switch to meet the specifications 1 and 2 below.

Specification 1: A = 10 ± 1 IRE (for NTSC)

A = 20 ± 7 mV (for PAL)



Specification 2: Beam spot of the black level comes to the center position of the vectorscope screen



4. Check that the specifications 1 and 2 are satisfied at GAIN 0 dB.

3-3-13. Shading Adjustment

Note

When replacing the lens and CCD unit, perform this adjustment.

Object: Overall white

Equipment: Waveform monitor, Oscilloscope

To be extended: VA-169 board (DXC-D35/D35P)
VA-185 board (DXC-D35WS/D35WSP)

Trigger: VD (TP73/EX-490 baord)

Preparation:

[When replacing the CCD unit]

Attach the lens VCL-918BY or equivalent to this unit.
(Refer to the instruction manual, adjusting the Lens in Section 5, "Designating the lens".)

Set the LENS SEL of the ADVANCE menu "PAGE 4" to
1. Set the data following the adjustment procedure.

The R,G,B value of the number 1 takes as the reference to the values of LENS SEL 2, 3 and 4.

Reference

LENS SEL	EXTENDER OFF			EXTENDER ON		
	R	G	B	R	G	B
1 (Addition value)						
2	-15	10	-15	0	0	0
3	-25	20	-25	0	0	0
4	0	0	0	0	0	0

[When replacing the lens]

Set the LENS SEL of the ADVANCE menu "PAGE 4" to
4. Set the data following the adjustment procedure.

Adjustment Procedure

1. SERVICE menu "PAGE 2"

→ R W. SHAD:

 G W. SHAD:

 B W. SHAD:

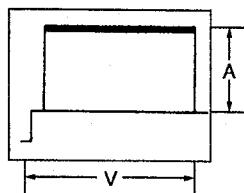
2. Shoot the center portion of pattern box by zooming the lens to fully TELE position.

If the lens has an extender, set the extender OFF.

3-3. Camera Adjustment

3. Adjust the lens iris to bring the white level "A" to 70 ±2 IRE.

Test point: VIDEO OUT connector

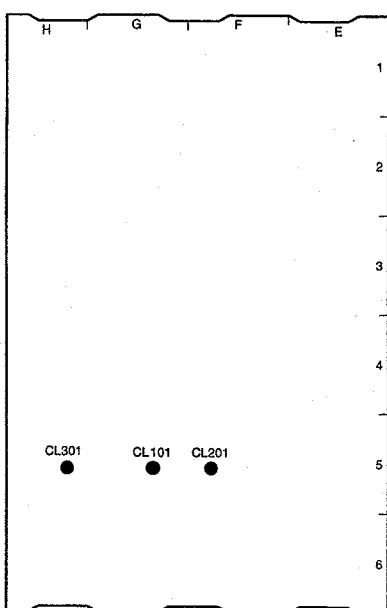


4. In the following items, by pressing the UP ▲ or DOWN ▼ switches, adjust the waveform of the oscilloscope to be flat.

GND: TP38/EX-490 board

Item	Test point	Specification
R W. SHAD	CL101	
G W. SHAD	CL201	
B W. SHAD	CL301	

5. If the lens has an extender, set the extender ON and perform the adjustment of step 4.



VA-169 board (B side) (DXC-D35/D35P)
VA-185 board (B side) (DXC-D35WS/D35WSP)

3-3-14. Flare Adjustment

Object: Grayscale chart

Equipment: Waveform monitor

Preparation:

- OUTPUT/DL/DCC + switch: CAM/DCC +
- Select a large lens iris and shoot the grayscale chart covering fully the underscanned frame.
(Refer to Section 3-1-4.)

Test point: VIDEO OUT connector

Adjustment Procedure

1. SERVICE menu "PAGE 3"

→ R FLARE: x

G FLARE: 5

B FLARE: x

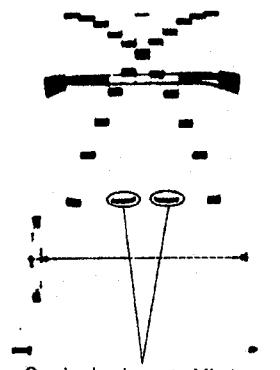
Note

Make sure that "G FLARE" is "5".

2. Push the WHT/BLK switch in the "BLK" direction to make a black balance.
3. Adjust the lens iris to bring the white level to A = 100 IRE.
4. With the W. BAL switch set to "A", push the WHT/BLK switch in the "WHT" direction to make a white balance.



5. Make the lens iris large by two steps.
6. Adjust the flare with UP ▲ and DOWN ▼ switches alternatively to minimize the carrier leakage level.



Carrier Leakage to Minimum

3-3-15. MIC Level/MIC Level IND Adjustment

Equipment: Oscilloscope

Preparation: OUTPUT/DL/DCC+ switch: BARS

Adjustment Procedure

MIC Level Adjustment

Test point: CL201 (GND: Capacitor C202 \oplus side)

/MB-629 board (for DXC-D35/D35P)

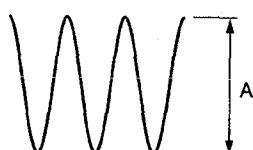
/MB-785 board (for DXC-D35WS/D35WSP)

Adjusting point: \odot RV201

/MB-629 board (for DXC-D35/D35P)

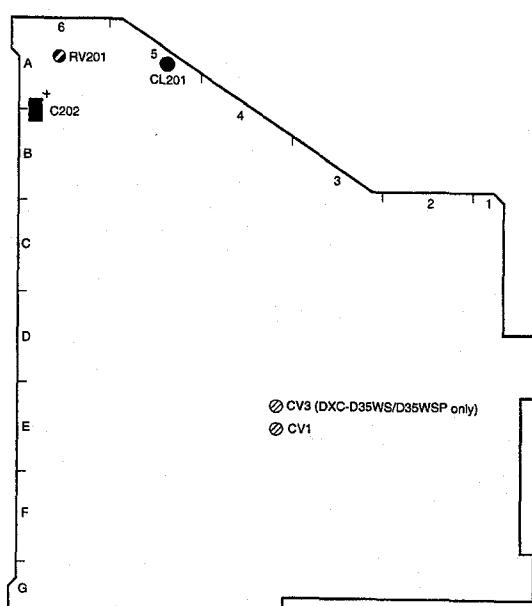
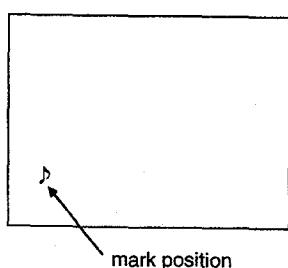
/MB-785 board (for DXC-D35WS/D35WSP)

Specification: A = 110 ± 5 mV



MIC Level IND Adjustment

1. SERVICE menu "PAGE 17"
→ MIC ADJ
2. Adjust by the DOWN ▼ switch, and stop at the point where the \downarrow mark just appears on the monitor screen.
3. Adjust by the UP ▲ switch, and stop at the point where the \downarrow mark just disappears on the monitor screen.
4. Set the DOWN ▼ switch at the five-descending position from the point the \downarrow mark disappears.



MB-629 board (B side) (DXC-D35/D35P)
MB-785 board (B side) (DXC-D35WS/D35WSP)

3-3-16. Character Position Adjustment

Equipment: Color monitor (or, B/W monitor)
Preparation: OUTPUT/DL/DCC + switch: BARS
Test point: MONITOR OUT connector

Adjustment Procedure

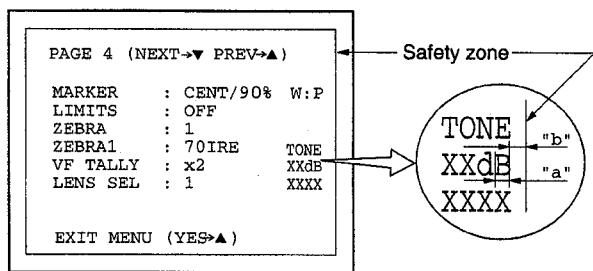
1. Set the "MARKER" to "ON" on the BASIC menu.
2. Select "PAGE 9" on the ADVANCE menu, set "16:9/4:3" to "16:9" position.
3. Set the "MARKER" to "CENT/90 %" on the "PAGE 4" of ADVANCE menu.

4. Adjusting point:

- CV1/MB-629 board (for DXC-D35/D35P)
- CV3/MB-785 board (for DXC-D35WS/D35WSP)

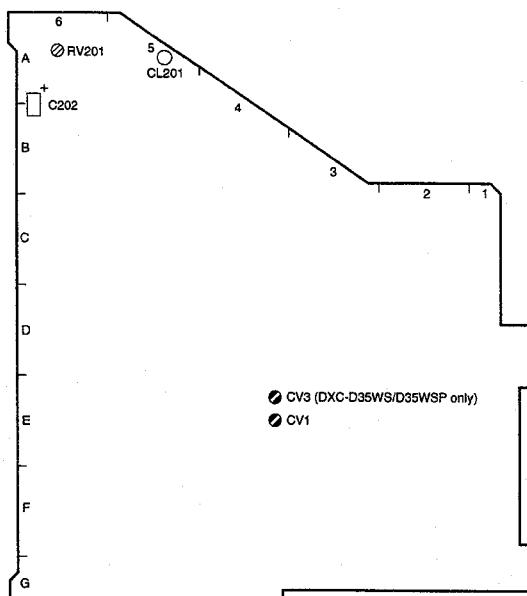
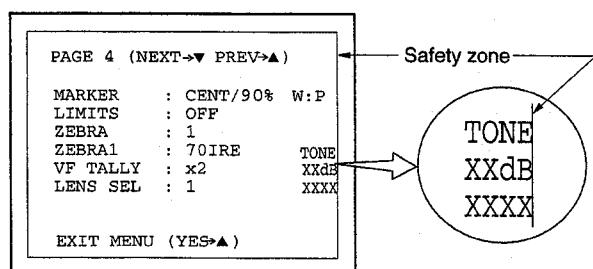
Specification: "a" ≈ "b" (for NTSC)

[for NTSC]



Specification: Bring the characters to the safety zone as close as possible, yet prevent them from overlapping.
(for PAL)

[for PAL]



MB-629 board (B side) (DXC-D35/D35P)
MB-785 board (B side) (DXC-D35WS/D35WSP)

3-3-17. 4 : 3 Title Adjustment (Only for DXC-D35WS/D35WSP)

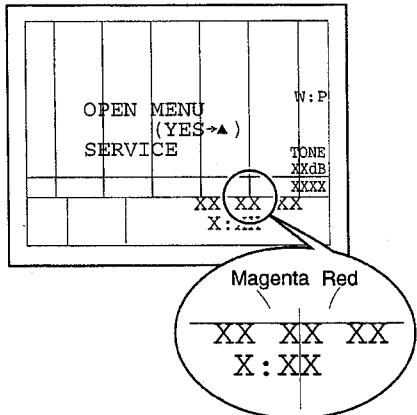
Equipment: Color monitor (or, B/W monitor)
Preparation: OUTPUT/DL/DCC + switch: BARS
Test point: MONITOR OUT connector

Adjustment Procedure

1. Select "PAGE 9" on the ADVANCE menu, set "16:9/4:3" to "4:3" position.
2. Select "PAGE 8" on the ADVANCE menu, set "CLOCK IND" to "BARS" position.
3. Set the cursor to "EXIT MENU" then press the UP ▲ switch to return to the menu selecting screen.
4. **Adjusting point:** \bullet CV1/MB-785 board

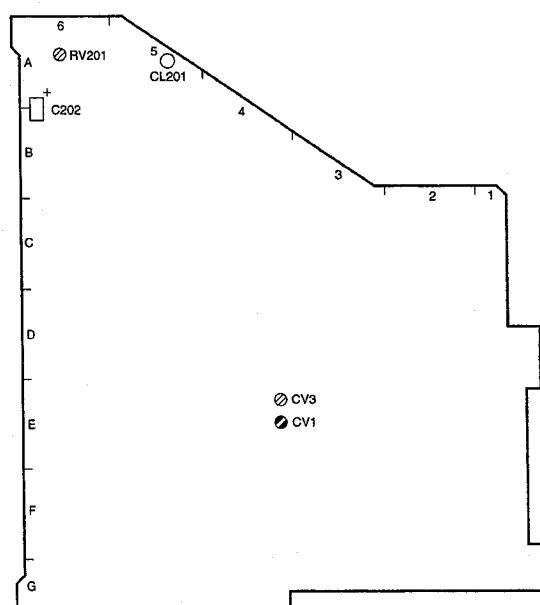
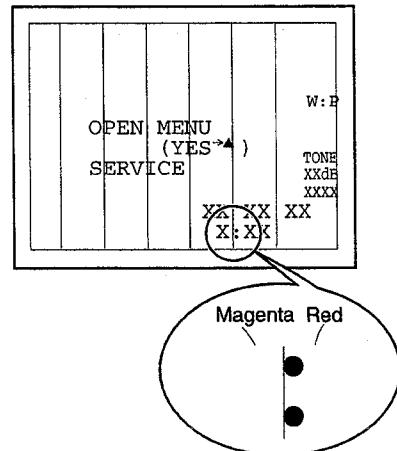
Specification: Align the center of the two-digit figure XX with the boundary between magenta and red of the color bar as shown in the following figure. (for NTSC)

[for NTSC]



Specification: Align the left end of the ":" with the boundary between magenta and red of the color bar as shown in the following figure. (for PAL)

[for PAL]



MB-785 board (B side) (DXC-D35WS/D35WSP)

3-4. Changing the Standard Setting Values (Video Level)

When changing the setting of black level, flare, gamma, manual knee and white clip by the user's desire, perform the procedures below.

3-4-1. Setting Status before Changing the Setting.

• Side Panel

GAIN switch:	LOW (0 dB)
OUTPUT/DL/DCC +:	CAM/DCC +
WHITE BAL switch:	A
ZEBRA switch:	OFF
HYPER GAIN switch:	OFF
SET UP switch:	STD
EZ MODE button:	OFF
A.IRIS MODE:	STD
ATW button:	OFF

• Front Panel

FILTER control:	1 (3200 K)
SHUTTER switch:	OFF

• Lens

IRIS:	M (Manual)
ZOOM:	M (Manual)

3-4-2. Changing the Setting Value of Black Level

Equipment: Waveform monitor

Test point: VIDEO OUT connector

Procedure for changing the setting

1. Set the lens iris to the close position (C).
2. Push the WHT/BLK switch in the "BLK" direction to make a black balance.
3. SERVICE menu "PAGE 15"
→ M.BLACK:
4. Set the black level A with the UP ▲ or DOWN ▼ switch.

M.BLACK Standard setting value = 2070 (for NTSC)
2075 (for PAL)

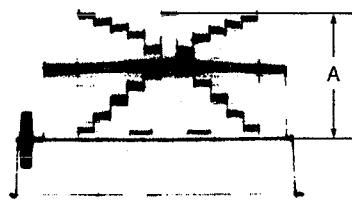


3-4-3. Changing the Flare Compensation Setting Value

Object:	Grayscale chart
Equipment:	Waveform monitor
Preparation:	Select a large lens iris and shoot the grayscale chart covering fully the underscanned frame.
Test point:	VIDEO OUT connector

Procedure for changing the setting

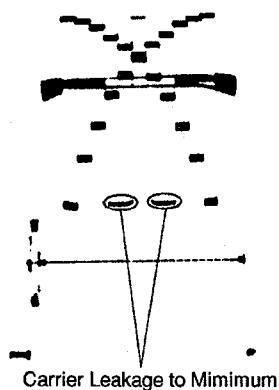
1. SERVICE menu "PAGE 3"
→ R FLARE: x
G FLARE: 5
B FLARE: x
2. Adjust the lens iris to bring the white level A to A = 100 IRE.



Note

To make the flare compensation more effectively, set a big value to G FLARE.

G FLARE standard setting value = 5



3. Make the lens iris large by more two steps.
4. Adjust the "R FLARE" and "B FLARE" alternatively with the UP ▲ or DOWN ▼ switch in order to minimize the carrier leakage level.

3-4-4. Changing the Gamma Correction Setting Value

Note

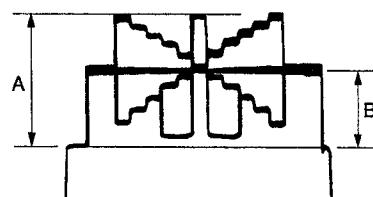
It is advisable to use a reflection type grayscale chart for this adjustment. Further more, before adjustment, setting of the luminance (or brightness) on the chart surface and the color temperature setting are required. For details, refer to Section 3-1-5, "Maintaining the Grayscale Chart".

Object:	Grayscale chart
Equipment:	Waveform monitor
Preparation:	Select a large lens iris and shoot the grayscale chart covering fully the underscanned frame.
Test point:	VIDEO OUT connector

Procedure for changing the setting

1. Push the WHT/BLK switch in the "WHT" direction to make a white balance.
2. Adjust the lens iris to bring the white level to A = 100 IRE.
3. SERVICE menu "PAGE15"
→ M.GAMMA
4. Set the cross point B of the grayscale with the UP ▲ or DOWN ▼ switch.

M.GAMMA standard setting value = 132

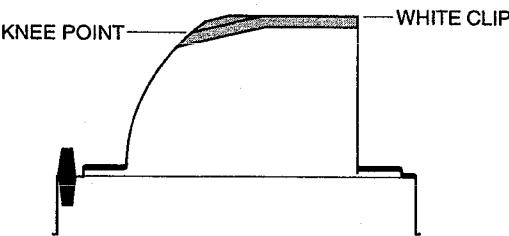


3-4-5. Changing the Manual Knee/White Clip Setting Value

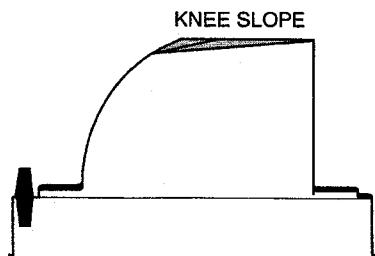
Equipment: Waveform monitor
Preparation: OUTPUT/DL/DCC + switch : CAM/DL
Test point: VIDEO OUT connector

Procedure for changing the setting

1. **Changing of the knee point setting value.**
 ADVANCE menu “PAGE 2”
 → DL: OFF
2. SERVICE menu “PAGE 10”
 → TEST SAW : 2
3. FILE menu “PAGE 6”
 → M.KNEE P:
4. Set the knee point with the UP ▲ or DOWN ▼ switch.



5. **Changing of the knee slope setting.**
 FILE menu “PAGE 6”
 → M.KNEE S :
6. Set the knee slope with the UP ▲ or DOWN ▼ switch.



Reference

In STD, HISAT, FL, FILMLIKE, SVHS/VHS and USER1 to 3 files, the manual knee setting is available in every file. To return the changed manual knee setting values to the standard setting values, perform the following procedures.

- (1) Set SETUP switch to STD.
- (2) FILE menu “PAGE 3”
 Recall FILE STD.
- (3) FILE menu “PAGE 6”
 Set M.KNEE P and M.KNEE S.
- (4) FILE menu “PAGE 12”
 Store *STD in FILE STD.
- (5) FILE menu “PAGE 3”
 Recall FILE STD to STD
- (6) Set SETUP switch to FILE.
- (7) FILE menu “PAGE3”
 Recall FILE HISAT.
- (8) FILE menu “PAGE 6”
 Set M.KNEE P and M.KNEE S.
- (9) FILE menu “PAGE 12”
 Store *HISAT in FILE HISAT.
- (10) For each of FL, FILMLIKE, SVHS/VHS and USER 1 to 3 files, perform the steps 7 to 9.
- (11) FILE menu “PAGE 3”
 Recall FILE HISAT to HISAT.
- (12) Return SETUP switch to STD.

7. Changing of the white clip level setting value.

The values at the factory setting are as follows.

NTSC Model = 107 IRE

PAL Model = 109%

SERVICE menu “PAGE 16”

→ WHT CLIP:

8. The white clip level can be decreased with the DOWN ▼ switch.

W.CLIP standard setting value = 255

Note

When reducing the white clip setting value, it is recommended to change the former mentioned manual knee setting in order to keep the reproduction of the grayscale in the high luminance level part.